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VOLUME XXXVIII NUMBER 8

Teachers College
RECORD

May 1937

An Uncultivated Field*

By THOMAS H. BRIGGS

PROFESSOR OF EDUCATION, TEACHERS COLLEGE

IN A large industrial plant it was recently found that only 95 per cent of certain chemicals used in the manufacture of ethyl chloride was recovered. Though the loss may seem small to the layman, it disturbed the engineers, partly because of the cumulative cost of the waste, but largely because it was a constant reminder of the fact that their methods failed of perfection. Consequently they tackled the problem and by the application of theory already possessed they were able to effect a complete recovery. Although the annual saving in dollars and cents would pay the salary of the engineer who solved the problem for some thirty years and his discovery won for him a substantial bonus, it is ventured that his greatest reward was in the consciousness of victory through science over one more problem which unsolved was a constant irritation and challenge.

In 1895 Wilhelm Röntgen announced to the world that longitudinal vibrations of the ether through a highly exhausted vacuum tube have the power of penetrating substances opaque to ordinary light. It has been estimated that within a week after publication experiments were performed in no fewer than 140 laboratories in the United States alone that proved the power of the mysterious X rays, which by the continuous work of scientists ever since have been applied in numberless ways for the benefit of mankind.

* An address delivered before the North Central Association of Colleges and Secondary Schools, Chicago, Ill., April 9, 1937.

About the beginning of this century J. J. Thompson discovered that the carriers of discharges generated by heat on certain matter are electrons, and a few years subsequently O. W. Richardson, continuing studies on thermionic emission, discovered the fundamental law connecting the phenomenon with temperature. Literally hundreds of scientists in all parts of the world immediately accepted the challenge to learn what could be done with the discoveries. Applications began to be proposed about 1912, and today we have as a part of our general heritage the radio and all its related marvels.

In the world of true science not one man alone but scores experiment on a problem that is recognized as important. Rous of the Rockefeller Institute discovered that a filtrate of the virus of tumors when injected would produce tumors. Jobling and Sproul advanced knowledge by adding the contribution that viruses differ in their chemical character; some are proteins and some are lipids. Claud by continued research found that the virus of tumors contains in its lighter element an inhibitor, and Johnson reports self-immunity but infection potentialities in plants recovered from a virus disease. Thus the war against cancer is cumulatively advanced. The discovery of each man is proved and then the fight is pushed forward continuously until eventually victory will be won. Science is not content with a single worker publishing a tentative finding and then turning to another problem. Science retests, extends, and continues co-operative effort until results are found that warrant practical and effective use.

When Heinrich Horlein and his associates announced that prontosil would destroy streptococci in the body, other research workers, notably Colebrook and Kenny in England, immediately not only made tests that proved its efficiency but also sought to learn how the chemical works. They wanted to understand the underlying theory. Although they have not yet entirely solved that problem, research chemists in all parts of the world have proved that prontosil and its allied drug prontylin do miraculously save lives, and the entire medical profession has adopted them into the practical pharmacopoeia. A similar story can be told of insulin for diabetes and of liver extract, and its improved chemical equivalent, for anaemia. Science not only discovers but it proves and presents its findings so conclusively that the workers in the field apply them for the benefit of mankind.

These illustrations have been given to show that science tackles

problems of ineffectiveness and continues its work unremittingly until they are solved. It publishes tentative conclusions merely as reports of progress, which continued efforts attempt to forward, and as a challenge for others to join in the work. Science does not accept a report and then abandon the problem. Science repeats the experiment, proves that its conclusions are sound, improves the techniques, and extends the study. It seeks to understand the underlying theory so that knowledge may be extended and further advance made. It presents its findings so conclusively that application is inevitable. Indeed it has trained an army of workers whose function is not original discovery, but rather the translation of the theoretical into practice. The development engineer, who takes what the test tube has taught and makes it work in the factory, is as important in industry as the theorist or the inventor.

The proposal in the first decade of this century that science should be introduced into education was hailed with mingled scepticism and enthusiasm. The former, however, gradually gave way under the logic of the need. It was and still is evident that the success and sound progress of education cannot be assured by impressionism and by personality. Every student recognizes that a program of education must be based on carefully gathered facts and that improvement of its techniques should be directed by the results of experiments planned and carried out with the same meticulousness and persistence as in other fields. These necessities being recognized, we have had for nearly a generation courses in all our schools of education on how to conduct research. For several reasons, which I shall present, this attempt to introduce science into education has fallen far short of the success that reasonably was expected of it.

In the first place, too few of those who have offered courses on research in education are master scientists. It may safely be asserted that we have attempted for the most part to teach the techniques of statistics rather than the spirit of research. The majority of our recent students of education have learned to find means, medians, modes, and measures of dispersal; they compute coefficients of correlation or of contingency by formulae which they cannot derive; and they use the language of statistics with a fluency that too often conceals an ignorance of the fundamentals of research. A child of a graduate student is reported to have called a playmate in vituperation "a mean square deviation."

Statistics are a valuable instrument in research, but the underlying principles of scientific inquiry must be understood or they lead to mischievous results. Several years ago a humorist published in one of our professional journals a satirical report of correlations that seemed to attribute to the study of Latin a causative effect on poverty, arson, and homicide. Stimulated by this and not perceiving its satire, two educators within a year reported in the same journal an extension of those wholly fallacious correlations. They had learned to apply a formula, but they had no understanding of its meaning or of the nature of research. Statistics are for the purpose of helping the research student to ascertain truth, not for the purpose of justifying a presupposition. There is a type of worker who, in the words of Andrew Lang, "uses statistics as a drunken man uses lampposts—for support rather than illumination."

Certain of our ablest statisticians have apparently assumed that refined figuring can compensate for crude and not truly representative data and that they can lead to an apparently respectable but altogether unjustifiable or fallacious statistical conclusion. As a matter of fact, most of the problems which arising out of educational practice challenge the research worker are relatively gross and need only simple statistics to check the conclusions of common sense. It is altogether unnecessary to use the accurate tools of the cabinetmaker or to attempt delicate inlays when constructing a pine board shelf for practical utility of holding cans of axle grease in the barn. The most important and pressing problems in education are today the utilitarian. Research workers should ascertain from practitioners what they are and using such tools as they demand pursue scientific inquiry until conclusions that are entirely convincing to a changed procedure are found. If the problems of research arise from the actual need of education rather than from chance academic curiosity, the practical school men would be more interested in what research workers attempt, more concerned with the procedures and conclusions, and more convinced of the need of using the results to modify practice.

A true scientist would place small reliance on coefficients of correlation of the size reported in many studies in education, coefficients that are magnified by an extension to three or more insignificant decimal places. A central tendency of 9.73 with a probable error of

6.194 cannot guarantee conclusions that may be based on it. In this connection I recall the answer of a young scientist when I asked him the probable error in temperature of chamber in which he was conducting an experiment on the path of light. "I don't know precisely," he said, "but it is about .001 of a degree centigrade." The value of the human material with which we work and the supposed effect of education on it demand that the statistics which we use shall be entirely convincing, but it seldom if ever demands such meticulous extension of accuracy.

The criticisms herein presented and leading later to constructive suggestions are not made without appreciation of much sterling work done by scientists in the field of education. Nor do they forget the annual publication by the United States Office of Education of lists of studies many of which can be called research only by a violent stretching of the term. It is precisely because research is so much needed and because there is so little discrimination between what is sound and what is not that I venture to review our procedures at this time. The progress of education depends, on the one hand, on a sound philosophy of society, and, on the other, on the application of the scientific method to the educational procedures existing or to those continually proposed by fertile minds.

As indicated earlier, research in other practical fields begins almost universally in a perception of important inefficiency or of difficulty. It is closely related to practice, springing from its obstacles and returning to remove them. In education it too frequently is remote in origin from school procedures and its conclusions as a rule have little effect upon them. In other fields it is common to find a master concerned with some major problem and numerous students working under his direction on minor but contributing aspects of it. In education this is the exception. Even the abler of our research men skip about too much, delving here for a while and then there on problems related loosely, if at all, and therefore failing both to become eminent specialists, as Michaelson was on light, as Pupin was on sound, or as Millikan and Compton are on cosmic rays. Our students waste much time trying "to find a problem," on which they may be taught techniques, without any expectation that the solution will contribute to a vital need or that they themselves will become outstandingly competent on some procedure of recognized importance. It is small

wonder that not more than one out of ten, to make a conservative estimate, of the men and women who have "manifested competence to do research" to satisfy requirements for the doctorate ever do any more similar work after they have received the degree.

Of the many kinds of research, education has tended more and more to confine itself to the simplest. The most common procedure is to collect facts. Everyone recognizes that facts are necessary for any kind of program, but facts in isolation have no meaning. As Voltaire once wrote, "facts are to history what baggage is to an army, impedimenta." He did not mean, of course, that history can be written without facts any more than that an army can subsist without baggage. But he did mean that the collection of facts merely for their own sake gets in the way of effective progress. The skilled historian seeks to learn everything that will contribute to his understanding of a person, a period, or a problem. He does not collect a number of data on some isolated phenomenon and after publication jump to another that is remote and unrelated. But that is a not uncommon practice in education, as may be proved by consulting the items in the bibliographies of numerous men who publish in our journals.

Much of our fact collecting is good enough as fact collecting. We publish the data in neat tables, illustrate them with beautifully drawn graphs, and append measures of central tendencies and of dispersal. The weakness of the procedure is that so many of the facts are collected without relation to a vital problem and that consequently they are seldom used by anyone to prove a theory or to modify practice. Witness, for example, the neglect of the data published by Burdge in *Our Boys*. A prominent means of fact collecting in education is the highly fallacious questionnaire. With reasonable care the fallacies may be avoided, but the criticism that the questionnaire not always arises from a real need and that it seldom contributes to modify general practice can easily be substantiated.

One explanation of the neglect of real and carefully guarded experimentation in education is the difficulty of arranging satisfactory conditions with human beings, who must be not only safeguarded from harm but at the same time forwarded as best we know how in development. Both parents and teachers are alarmed at the idea of making guinea pigs of children. It is a pity that white rats cannot

be more used in education as well as in nutritional experimentation. And yet the very value of education and of the human beings whom it is to affect demands that we risk the few for short periods of time in order that we may learn how to benefit the many by improved practice.

That this can be done without serious harm is evidenced by the numerous so-called "experiments" that are going on all over the country, deviations from normal practice to try some novel procedure. But how few of them are set up as true experiments, with preliminary measurements, with accurately selected control groups, with an isolated experimental factor, and with results carefully ascertained and interpreted. Education needs to use the appropriate experimental procedures, however difficult they may be to arrange, in order to solve the important problems that are obvious in general practice or that are raised by progressive theory. For all our protestations, we have not developed sufficient respect for science to refer to it the problems that we generally recognize, nor have we developed a conscience that impels us to use what research has found. Such findings as those on the Kansas City shortened period of schooling or those on the effects of class size should be disproved or else used materially to change practice.

It is suggested that research in education should far more than in the past originate in appeals for help from men and women in the classroom and from administrators who still retain sufficient interest in human development to appreciate the difficulties that are actually encountered in education. Problems emanating from such sources will indubitably have vital value, and they will properly be supplemented by others arising from proposed changes in philosophy or in procedures.

Research agents in school systems or in our university laboratories would do well to concentrate on a major problem, such as the effects of varied lengths of recitation period or school year, the techniques of the several kinds of reading, the education of the emotions, or extra-school learnings—which will develop many subordinate and contributing problems of a size that can be solved in a reasonable amount of time with a reasonable expenditure of energy. Such a concentration on one major problem at a time would enable the research worker to develop a competence that is impossible when his exertions

are dissipated in a variety of fields, and it would promise a contribution far more likely to affect practice, first in the school concerned and later elsewhere.

In the past two decades we have probably published more so-called research studies and done less about them than any other professional group. One reason for this neglect in practice is, as already suggested, the large amount of scattering of effort. Another is the fact that educators in the field do not know what conclusions are reliable. Many published studies frankly state that the findings are tentative and that more research on the problems is needed. Too frequently a study is carried forward to a convincing conclusion neither by the original author nor by anyone else.

A contribution that is sorely needed is an evaluation and popular interpretation of all published studies in education, a project that I proposed three years ago. This would require not only a considerable amount of money, but also the continuous services of the best research workers in our field directed by a single agency to follow a carefully prepared and generally approved plan for a co-ordinated contribution. It cannot safely be left to voluntary effort of individuals who, varying greatly in competence, would use procedures so different that conclusions could not be comparable. Money for such an undertaking will doubtless be found when a request for funds emanates from a large group of representative professional educators who, appreciating the need, can convince others of the necessity. If research findings are applied so as to effect practical achievement, the manifest savings could be shown to justify abundantly the cost of the proposed project. It would not only reveal to teachers and administrators what can be relied on but it would also indicate the areas in which further research is needed for the consolidation of knowledge. Up to the present there has been much wildcatting by our research workers. By such an evaluation as is proposed the map of the educational territory could be spotted with symbols for dry holes, gas wells, and gushers. Inspection would then give sound advice as to where the next work should be done with most promise of profit.

Besides the fact that field workers do not know how to evaluate published reports of research and thus to judge on what they can rely, they have been taught neither to interpret the findings and to translate them into practical procedures nor to have a sense of re-

sponsibility for so doing. As has repeatedly been found, it is embarrassing to ask a body of experienced and otherwise competent school people what changes they have made during the preceding year as a result of published research. The replies are nearly unanimously negative. This indicates not as much criticism of teachers and administrators as the need of systematic and thorough training in the use of research. During the past few years we have taught a multitude of students a smattering of the elements of research, but hardly anywhere can be found a course in the evaluation, the interpretation, and the use of research studies. Teachers and administrators are expected to apply what research has found, but how are they to learn how to do it? Here, then, is an important challenge to our colleges of education. For every course on how to carry on research there should be five on what to do with the findings that are published.

If such courses developed a competence and a conscience to translate the results of research into practice, we should have a revolution not only in our school procedures but also in the kinds of research undertaken. A type of contribution now practically unknown in our professional magazines would become common. This would report not only the techniques used in modifying practical procedures as warranted by research findings with results measured as carefully as required, but also new problems that arose, problems that would indicate where further research could most profitably be undertaken.

Industry uses a development engineer, which education needs to use too. A development engineer is as well trained as most of the men who do research, better than some. His responsibility is to take what the theorist has found or what works in the laboratory and to make it work on a large scale in the factory. He understands the theory, but he understands also the machines and the operatives. He has to know and be able to work harmoniously with other human beings. In interpreting the abstract and in adapting it to concrete conditions he is in a sense as creative as the inventor. Without him industry would be much more wasteful and would make much less rapid progress toward effective production than now. Here is a special career of great importance in education. Imagine what might not be achieved if we had actually in our classrooms every day someone who is informed of what research has proved, who understands the theory back of it all, who knows the children and the teacher,

and who can direct the translation of what science has discovered into promising procedures, which he supervises until they are effective under conditions as they exist. While doing all this, the development engineer in education would discover and refer to the research agencies for solution a steady stream of problems that grow out of experience. Our graduate schools have no more important challenge than to prepare promising young men and women for such a career.

To make research and the scientific study of education more effective we need, then, the following:

1. A complete and continuous evaluation and interpretation by the most competent agency possible of all published research studies. This will not only furnish workers in the field with conclusions on which they can rely and which will direct them to application in practice but will also reveal areas in which it is most profitable for research to work, either to consolidate a field that is partly developed or to explore new areas that are as yet untouched.

2. Concern by research workers for the most part with problems that are manifest in actual practice (such as how a left-handed child best learns to write), that are made evident by proposals for new types of practice (like the unit plan of teaching), or that are brought out by new proposals of philosophy of society and of education (such as the effects of school competition on social attitudes).

3. A division of the field of research so that competent men concentrate, as to some extent now in education and as is general practice in other subject fields, on areas of specialization, in which there will be many subordinate but closely related and immediately contributing problems.

4. Persistence on problems studied until conclusions justifying changes in practice are reached. We have entirely too many studies abandoned with only tentative findings. We have not yet solved the problems, for instance, of motivation, of homogeneous grouping, or of the best age for beginning or of the best method for learning a foreign language.

5. Better training of the relatively small number of men and women especially gifted and genuinely interested in the spirit of research. This means abandoning the superficial training of others in the mechanical techniques which they neither understand nor ever use intelligently.

6. More critical evaluation of published studies. Critical reviews of books in education are mostly mere notices, frequently summarizing the preface or the advertisement on the jacket; critical reviews of magazine articles are almost unknown.

7. More repetition of reported experiments with the same or with improved techniques for the purpose of testing the conclusions. This is a common practice in all fields other than education.

8. Research that will explain the theory underlying observed achievements. This is necessary to expedite further progress.

9. Research to extend reported studies, in whole or in part, or to apply basic theories that have been substantiated.

10. Training of all workers in the interpretation of reported studies and in the translation of their findings into programs of practical procedure. This implies broader and more intensive training of gifted people to be development engineers in education. Every student of education knows what is reported about memorizing by wholes, about the efficient distribution of time in learning, and Ebbinghaus's curve of forgetting, but where do we find general application in teaching?

11. The development in all teachers and administrators of a sense of responsibility and a conscience to use the proved findings of research for the improvement of practice and to refer to research agencies for solution the problems that develop in the day's work of the classroom.

When we seek to satisfy these needs, we shall be on the way to developing a science of education and research procedures that are vital and effective. Until we attempt these things we shall continue a pseudo-science that is now neither vital nor effective.

A Suggestion for Evaluating School Activities

By CLAIRE T. ZYVE

PRINCIPAL OF FOX MEADOW SCHOOL, SCARSDALE, NEW YORK

THIS article will be welcomed by all who are concerned with changes in the content and practices of elementary schools. Wide variation in ends sought, in materials and methods used in programs of instruction, and in appropriate means for evaluating these calls forth questions at least partially answered in the analysis reported here: What is going on in other classrooms and schools? Of which classroom experiences are children most aware? From what areas do children's experiences come? Do classroom experiences differ in different environments? How do experiences tend to change as the school's educational program approximates more closely an ideal setting for child growth? Are there ways by which I can evaluate my own program? It is of vital importance to teachers that light be thrown on these inquiries.

JEAN BETZNER
Assistant Professor of Education, Teachers College

THIS study presents results of the classification and comparison of activities in five hundred suburban, city, and rural elementary classrooms. The analysis is made from lists compiled by children in December, 1936, in response to their teachers' suggestions to tell the "things we have done in our room since school started." The first week of December seemed to be a suitable time to collect data, giving as it did a definite time period from the beginning of school which was not too long for recall of activities by small children.

The analysis includes materials from 145 suburban classrooms, 204 city classrooms, and 141 rural classrooms. The data came from schools interested in working out a program in keeping with present educational philosophy. The suburban schools were those with a reputation of being "good" schools. The rural data were taken from a cross section of the rural and consolidated schools of New Jersey under the direction of Mr. Ernest Harding, Assistant Commissioner of Education in New Jersey. The city material came from one large city system and represents schools with varied economic, social, and racial environments; it was obtained through the co-operation of Assistant Superintendent John J. Loftus, of the Division of Elemen-

tary Schools of New York City, as a study in the major curriculum experiment being conducted in a group of seventy experimental schools of the city. Although all these city schools are engaged in an experiment with the activity program, they have been grouped here in two groups. One group, called the "A City" Group, is, in the opinion of an educational observer familiar with them all, further along than the other group in the achievement of a satisfactory educational program. The second group, less advanced in its progress from a formal to an activity program, is called in this article the "B City" Group.

In addition to these four groups, the Rural, the B City, the A City, and the Suburban Groups, there have been included as a matter of interest data from two small selected groups, each including twelve classes, representing practice coming from opposite extremes in educational philosophy. In one case the data came from a city school in which the teachers had decided that they would not work on the "activity" program. These classes are identified as the "Formal Group." The other data, given under "Superior Group" for identification purposes, came from a school which in the opinion of several educational experts is representative of the best in the suburban region, and is one in which the staff is closely united in belief in the value of an "experience" program for children.

All the schools represented fall within an area with a diameter of seventy-five miles, but there was no attempt at scientific equalization of the various factors which may affect the quality of an educational program. The schools represented are simply, in size, financial support, and staffing, typical of the rural, the suburban, and the city schools of the region.

In the Rural Group, for example, about a fourth of the data came from one-room schools with all grades in one room, a half from schools with varied mixtures of grades in a room, and a fourth from consolidated schools with one grade to a room.

The classes represented are practically evenly distributed among all grades from one to six, but there are fewer kindergarten groups than groups of other grades. Sixty-four different schools are represented in the Rural Group, nine in each of the City Groups, ten in the Suburban Group, and one each in the two especially selected small groups. The size of schools varied with the community, from

one-room rural schools to those with an average of 450 enrollment in the Suburban Group, and to those with an average enrollment of over 1,000 in the City Groups.

The median number of items listed per class varied a little with the groups of schools as follows: the Formal Group had a median of 30 items with a range of 10 to 74; the Rural Group a median of 38, range 16 to 125; the B City Group a median of 36, range 8 to 101; the A City Group a median of 43, range 11 to 90; the Suburban Group a median of 43, range 10 to 110; and the Superior Group a median of 50, range 20 to 114. The total numbers of items were: Rural, 6,083; B City, 3,949; A City, 4,571; Suburban, 6,415; Formal, 456; Superior, 704; Total, 22,178.

The teachers followed these directions in obtaining data:

> Be prepared to write on the blackboard the items as the children give them to you.
>
> Say to them: "Think of the things we have done in our group since school started. Tell me anything you think of and I will write the item on the blackboard."
>
> Put down all the items they give, no matter how minor the points may seem to be.
>
> If they stop, say: "Read the list over to yourself and see what you have omitted." If the class has not yet learned to read, read the items aloud to them.
>
> Do not rearrange or classify the items, but copy them on the attached sheet and send it to the office. Use both sides of the sheet, if necessary.

Following are typical items from a first grade list with a total of 66 items, and from a sixth grade list with a total of 60 items:

FIRST GRADE

Made a leaf book.
Had a party for our mothers.
Went to the store to get some food.
Told stories.
Roddy was Epaminondas in our play, Cynthia was the mammy and Louise was the auntie.
Saw some folk dancing.
Made gingerbread men.
Had a play.
Went out to gather leaves with Miss Gray.
Made books of leaves.
Played with Miss Saurborn.
Fixed a terrarium our ownselves.

Had some fish and made an aquarium.
Put a thermometer outside and we learned to read it.
Water the plants.
Made some boats.
Brought shells to school.
Learned how to write.
Learned to tell time.

SIXTH GRADE

Studied Current Events from different newspapers.
Found new places and new people to know about.
Listened to, discussed, wrote summaries of the news.
Discussed the food problem in the U. S., and how much people here and in the rest of the country spend on food per week.
Ran the crayon and colored pencil store.
Incorporated and issued stock in the Handy Store. (Expect dividends)
Reviewed new books.
Read *King Arthur* and *The Odyssey*.
Read the story of and seeing the movie of "Midsummer Night's Dream."
Copied quotations from "Midsummer Night's Dream."
Planned murals of "Midsummer Night's Dream."
Kept a record of sources of new knowledge on bibliography cards.
Studied the Continent of Europe; its history.
Saw movies of Belgium and Switzerland.
Worked for perfect scores in Friday's spelling and in arithmetic accuracy tests.
Kept a spelling graph.

The categories under which the items were classified were made after careful study of many lists and were chosen to give a grouping for every type of item in terms of what seemed to be its distinctive meaning. Where several interpretations were possible, the one was chosen which seemed to be of primary importance.

Every paper was classified by two persons: first, by some one of a group of teachers who had worked with practice materials and compared her results with those obtained by other teachers. The writer then rechecked all papers, eliminating as far as possible discrepancies in classification of similar types of items.

In the tables which follow, each category is given with the percentage of the total items classified under it. In cases where there are further subdivisions within the category, the percentages are based on the distribution within the category itself. It must be remembered here that the percentages cannot be directly compared for the fre-

quency of a given type of experience in different groups without taking into account the median number of items given by classes within each group. For example, in this table, the B City Group and the Formal Group with medians of 36 and 30 have even fewer experiences than seems apparent when compared with the groups with medians of 43 and 50. The comments included are not intended to be inclusive nor is there an attempt in this article to interpret all differences. Rather, the observations made are those which seem obvious to one who has worked with all the original data.

	Rural	City B	City A	Sub-urban	Formal Group	Superior Group
	PER CENT OF TOTAL ITEMS					
1. Social Relations Within the School	20	14	20	22	12	27
	DISTRIBUTION IN PER CENTS					
a. Activities involving other classes	9	8	10	20	13	21
b. Activities mentioned because of social co-operation involved Ex.: "had clubs" "worked on committees"	9	18	9	6	23	4
c. Activities implying exchange of experiences, information or materials Ex.: "had a surprise on teacher" "wrote letters to sick children" "brought games to school" "talked about trips we had taken"	15	27	26	23	6	24
d. Relations with parents	5	9	5	4	9	5
e. Taking responsibility for management of groups of school affairs	27	18	29	26	29	21
f. Decoration of surroundings	15	9	12	7	12	8
g. Responsibility for physical properties	20	9	9	14	9	16

As can be seen from the tabulation, the percentage of items having to do with social relations in the school is lowest with the Formal Group and highest with the Superior Group, with a fairly large difference separating the B City Group from Rural, A City, and Suburban Groups. In examining the distribution under the detailed items making up this category one finds differences which may be considered environmental. For instance, the Rural Group shows a relatively low number of contacts with children of other classes. But it must be

remembered that one-fourth of the rooms here are one-room rural schools and one-half have two or more grades in a room so that there are fewer rooms in the school with which to have contact. In addition, many children ride to school in buses, and so are included daily in a natural social situation. This same Rural Group is low in percentage in "sharing," which included items having largely to do with bringing articles and materials to school. Both the relatively poor economic background and the buses may make it more difficult for children to contribute. On the other hand, this Rural Group is highest in taking responsibility for care and repair of school supplies and equipment. It is also the group mentioning most often activities whose purpose was decoration of surroundings.

The B City Group shows two noticeable differences: the larger relative mention of clubs and committees, and frequency of contact with parents. The item almost always mentioned regarding parents was "open school" week. Its consistent presence in all class lists with the attendant making of posters seems to indicate that it was a required activity. The mention of committees or clubs, high in this B City Group, seemed to disappear in the other groups in favor of activities with attention given to the purpose of the activity rather than merely to the organization of children. This City Group was highest in the "sharing" category—in this instance, largely the bringing of objects or materials in to school. There is a considerable difference in favor of all the other groups over the B City Group in the number of times the management by children of group affairs was mentioned.

	Rural	City B	City A	Sub-urban	Formal Group	Superior Group
	PER CENT OF TOTAL ITEMS					
2. Acquaintance with Community	5	5	6	6	5	8
	DISTRIBUTION IN PER CENTS					
a. Excursions	24	47	29	30	27	39
b. Relations with people in community Ex.: "heard fire chief lecture"	11	10	14	17	32	33
c. Helping with community affairs Ex.: "filled Red Cross boxes"	29	19	22	24	36	8
d. Activities involving current news	35	24	34	29	4	20

There is little difference in the total mention of community contacts in any of the groups until one reaches the Superior Group. Here

there is a definite increase due both to the increased percentage and to the larger median number of items reported by this group. There seems to be little consistency in the proportion of *types* of community relationships due to what one might believe are environmental differences; likewise there seems to be no consistent tendency for a definite direction of change in the schools with the better programs.

	Rural	City B	City A	Sub-urban	Formal Group	Superior Group
	PER CENT OF TOTAL ITEMS					
3. Activities Involving Acquaintance with Other Times and Places	8	25	17	7	5	2
Ex.: "danced Virginia reel in Lincoln play"						
"made hooked rugs"						
"made relief map of South America and painted it"						

It is important to note that the items classified here were concerned with *activities* involving social science materials. Items indicating mere classification of information fell under "organization of materials and ideas." The differences as they appear here are interesting. The Formal Group had the second lowest percentage. This increased to the highest percentage in the B City Group, with a gradual decrease through the A City, the Rural, the Suburban, and the Superior Groups.

	Rural	City B	City A	Sub-urban	Formal Group	Superior Group
	PER CENT OF TOTAL ITEMS					
4. Expression	29	19	21	22	18	27
	DISTRIBUTION IN PER CENTS					
a. Individual expression of personal feeling or ideas	29	30	40	38	21	37
Ex.: "worked with wood, clay, paints"						
"painted many pictures"						
"wrote stories about vacation"						
"made a boat"						
b. Activities for enjoyment or appreciation (usually group activities)	38	27	24	37	40	40
Ex.: "took a walk in woods"						
"had a picnic"						

"sang"
"dramatized stories"

c. Manipulation seemingly directed or for a purpose but not directly related to social sciences 33 42 36 24 38 23
Ex.: "made a frieze showing habitat of animals"
"made cooking caps"
"made cardboard houses"
"made butter"

The Rural Group is highest here in total percentage of items with the Superior Group slightly below. There seems to be a tendency for the Rural, the A City, and the Suburban Groups to give more opportunity for individual and group expression and less attention to directed manipulative activities.

	Rural	City B	City A	Sub-urban	Formal Group	Superior Group
	PER CENT OF TOTAL ITEMS					
5. Organization of Materials or Information (including research in books)	8	11	13	7	2	5
Ex.: "made a notebook"						
"cut and mounted pictures"						
"we learned what Eskimos trade with"						

The writer's opinion is that this category should have been subdivided to show the difference between organization of information from books, and organization of materials, such as collections. Both are included here in the one category. The two city groups which are highest include a large number of items, such as "we learned that . . ." or "we found out that . . . ," giving information gleaned from books.

	Rural	City B	City A	Sub-urban	Formal Group	Superior Group
	PER CENT OF TOTAL ITEMS					
6. Activities Giving Wider Acquaintance with and Appreciation of Books and Literature	5	6	3	6	4	7

The comment one is inclined to make here is why a greater difference was not apparent.

	Rural	City B	City A	Sub-urban	Formal Group	Superior Group
	PER CENT OF TOTAL ITEMS					
7. Items Showing Attempt to Increase Skill Techniques	9	6	6	8	21	6

The one marked difference under skills is in the Formal Group which has more than twice the percentage of items falling under it as has any other school group. The suburban and rural children seem to be more conscious of the importance of development of skill techniques than do the city children.

	Rural	City B	City A	Sub-urban	Formal Group	Superior Group
	PER CENT OF TOTAL ITEMS					
8. Experiences with Living Things	4	2	3	7	½	7
	DISTRIBUTION IN PER CENTS					
a. With plants	66	75	88	55	all	60
b. With animals, insects, fish or fowl	33	25	12	45	0	40

The items included here were those which indicated actual experiences with plants and animals. It is possible that they are more a part of the natural environment of the rural schools, and therefore not included in the school program as much as in the suburban schools. This same reasoning cannot be followed, however, to explain the lower percentages in the city groups, but rather that such experiences are more difficult to include in a city program. It will be noticed that as the percentage of experiences increased they became more evenly divided between plant and animal life.

	Rural	City B	City A	Sub-urban	Formal Group	Superior Group
	PER CENT OF TOTAL ITEMS					
9. Involving Experimentation or Inquiry into Science	1	0	½	2	0	4

The percentages seem distressingly low for all groups. The 4 per cent in the case of the Superior Group comes from a school with a full-time, very excellent science teacher so that it is possible that it represents the highest percentage which may be expected in a school program giving a place to varied interests of children.

	Rural	City B	City A	Sub-urban	Formal Group	Superior Group
	PER CENT OF TOTAL ITEMS					
10. Generalized Ways or Rules for Acting ...	1	2	3	½	8	0
Ex.: "never be tardy"						
"be a good sport"						
"have good manners"						
"some got on honor roll"						
11. Topics Listed	5	4	1	5	9	2
Ex.: "studied Eskimos"						
"studied Middle Ages"						
12. Subjects Listed	2	2	2	2	7	3
13. Movies or Slides	½	1	1	1	0	0
Ex.: "saw movies or slides"						
"saw movies or slides showing how animals drink"						
14. Routine Moves	3	2	1	2	4	2
a. Ex.: "we moved our room"						
"fire drill"						
"we have recess"						
"we have homework"						
"we got report cards"						
b. Ex.: "we have new teacher"						
"Billy came back to school"						
15. Health	1	1	½	1	4	0
Ex.: "got weighed"						
"got measured"						
"had correctives"						

There are no marked differences here except in the case of the consistently higher percentages in the Formal Group in the categories indicating rather routine, unthinking ways of acting. The difference in mention of procedures regarding health may of course mean either lack of such procedures in one case, which is unlikely, or their increasing or decreasing importance to the children in relation to their interest in other activities in progress.

Certain directions of change in the kind of items mentioned by children are observable. For example, drill, names of topics, subjects, generalized rules, and routine moves include 49 per cent of the items given by the children in the Formal Group. Although items falling within these categories are still present in the other groups, the percentage of the total which they represent has decreased to 20 for

the Rural Group, 16 for the B City Group, 13 for the A City Group, 17½ for the Suburban Group, and 13 for the Superior Group.

The number of items falling under social science activities of the outside world in the various groups of classes is also interesting. It will be recalled (p. 654) that these percentages were 5 for the Formal Group, 25 for the B City Group, 17 for the A City Group, 8 for the Rural Group, 7 for the Suburban Group, and 2 for the Superior Group. Apparently the first type of activity in classrooms attempting a change to the activity program from a more formal one is in connection with peoples or places, distant in time or space. As the program progresses, as shown by the other groups, there is less of outside world social science mentioned and more of school and class social relationships, more expression for individual and group enjoyment, and finally an increase in community relationships.

There are certain lacks which may be noted. Experiences with living things, plants and animals, seem to be few, and to have little variety. There is even less mention of activities involving experimentation or scientific inquiry. These are entirely absent in one large group of schools, and at the highest point reach only 2 per cent, except in the small selected group in which 4 per cent of the items were so classified. Because of the high interest of children in these two areas, it is reasonable to expect, too, that their reporting would be more inclusive than in areas less interesting to them.

One or two comments may be made here regarding acquaintance with the community as shown in these lists. There seems to be little change in the kinds of community contacts with any of the groups. In general children are conscious of few contacts with people of the community. Aid in community affairs was limited practically entirely to welfare work while contact with other types of community problems was almost completely lacking.

There are certain cautions to be kept in mind in the interpretations of this material and of any such lists obtained from children. The percentage of types of activity do not indicate, for example, the relative *time* spent in the program on any one of them. The writer's impression is that even more important is the fact that such classification of items shows nothing of *quality* of experience. Two items from sixth grades, such as "feeding the goldfish" and "balancing a tropical fish aquarium," are both listed in the same category, although

one is a far more intricate process and richer experience than the other. In like manner, "reading a library book" and "dramatizing 'Phoebe Fairchild,'" both fall under the category, "Appreciation of Books," although the latter indicates a program of interest in children's modern literature, while it is impossible to judge the quality of the former.

This study indicates to some extent the areas of children's school experiences today, but the *evaluation of the quality* of the experiences is a problem for each individual school. Such evaluation must take place in terms of the children's community and home environment; it will indicate the development of the philosophy and practice of the staff; and it must be related to economic needs of the community and financial support of the schools.

Many kinds of informal evaluation are needed for the present elementary school program. The one described can be used by teachers in their own classrooms and schools. It is flexible. The categories used need not be those given here, but may be stated in terms of the ends toward which the school is working. The judgment of items is somewhat subjective at best, and can thus be agreed upon by a school staff in terms of the meanings which they feel existed for the children. It is an evaluation in which children have a part. One school uses such lists as a means of reporting school activities to parents and as a part of the records kept for groups in the school. The lists thus furnish a basis for a year by year analysis of the total of the experiences in the school.

It is, furthermore, a kind of evaluation which teachers and children enjoy making.

Science and Elementary Education

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THE elementary school is undergoing conspicuous changes, notably in such matters as teacher-pupil and school-community relationships and the evolution that is in process in regard to what constitutes the curriculum. It is not only that new subject matter is emerging, but that new ways of thinking relative to the function and the nature of the content have made significant inroads upon the traditional curriculum organized about subject matter. Content in the modern curriculum must be selected and evaluated on a basis of its social worth to the child and to society.

To some this failure of the modern school to place content in the curriculum for its own sake is indicative that in the coming era content will be disparaged and the curriculum will be practically devoid of subject matter. However, the new experimental studies of the curriculum may be taken as a whole to show that content is not being minimized in the new curriculum, but that the place of content is being revised. It is not that the elementary school is abandoning subject matter but that it must have a new deal in content—not only in the content elements but in the very function of content in the school. Subject matter must be recognized as a means, not as an end. However, content cannot be ignored, for by its very nature it must play an important part in education. It is the meaning attached to the experiences of life. There can be no education without content.

It would be difficult to analyze the effect of the recent curricular trends upon the subject matter fields. Any examination that we might make at this time would be only partial, as certain factors producing change in the curriculum are still vigorously in process. But possibly the most persistent factor operating to influence the content in the curriculum today is the growing insistence that content is valuable only in so far as it meets the needs of the child and of society.

In keeping with this point of view there has been the trend to

utilize current pertinent problems.[1] The consideration of such problems[2] as the smoke nuisance in a city or the proper methods of securing drinking water in a rural community may lead to action on the part of the children. If a community or national problem, such as the smoke nuisance or soil erosion, should be solved it would no longer be current or pertinent; but in order to prevent its recurrence an awareness of the problem and of the means of its solution may remain in education as a part of the social heritage.

The current pertinent problems may involve more than the immediate vicinity, for they may require for their solution much information concerning world-wide conditions, and the interrelationships of living things to other living things and in turn to their physical environments. It is apparent that in the scientific era in which we live content from the natural sciences would be needed frequently in the solution of current pertinent problems. Specialists in the content fields must recognize the soundness of a philosophy which has emphasized that the content of the elementary school curriculum should grow from the solution of problems that have challenge, significance, and pertinency to the learner.

Problems of a current pertinent nature, however, need not be confined to the type which demand community action for solution. Questions involving the nature of the moon and stars, the origin of the earth, the cause of meteors, or the cause of earthquakes may be current and pertinent to the child, arousing his curiosity and calling for solution.

The study of science has developed in the elementary school within the last decade. Although it partakes of many of the characteristics of its inheritance from natural history, natural philosophy, nature study, and agriculture-nature study, it differs in many points from these traditional fields. Nature study received an impetus from an economic depression, having been introduced for the purpose of keeping the boys and girls on the farms; elementary science has developed during a period of vigorous curriculum reconstruction.

As a result of this period of curriculum reconstruction there has been a definite tendency to evaluate elementary science in terms of its

[1] William H. Kilpatrick. "Psychological Bases and Their Implications for the American Curriculum." *Teachers College Record,* 38: March, 1937, p. 494.

[2] Hanna, Paul. *Youth Serves the Community.* New York: D. Appleton-Century Co., Inc., 1936.

social significance. The content of elementary science, then, is not to be considered an end in itself but a necessary means to social objectives.

The problem of examination and survey of areas of life's experience for values becomes an urgent one. There would seem to be a function for curriculum investigation in which trained specialists working and experimenting with children constantly reconnoiter the various areas of human heritage, for potentialities of enrichment of the curriculum in regard to vital problems, values, new experiences, and content. It is through such procedures that science has made its entry in the elementary school.

An important element in good teaching is the continuous thinking through on the part of teacher of the potentialities of education in terms of the whole educational process and in terms of the individual activities of the children. The child's growth in the understanding and appreciation of interstellar space or any other portion of the environment may be influenced by the teacher's conception of the possible significant implications of the learning to the child and through the child to society. The values a teacher recognizes have much to do with the type of problem utilized, how the problem arises and is solved, and the setting or context of both the problem and the content involved. Elementary education has need of cultured teachers. If the teacher lacks vision, the instruction is apt to be dull, uninteresting, and vague. If the teacher thinks deeply into the educational values, the instruction is more likely to be well-poised, balanced, and challenging. In this sense, the values in education a teacher accepts may be as significant in instruction as the content involved, although both are essential.

THE PLACE OF SCIENCE IN ELEMENTARY EDUCATION

In our consideration of the place of science in elementary education, it is important for us to realize the potentialities that the elementary school has as the school of the masses. We have in our elementary classrooms both tomorrow's laymen and tomorrow's scientists. Traditionally, our content subjects have been organized for the purpose of developing specialists and preserving the logical order within the specialized content fields to the neglect of the education of the great majority who will never become specialists in the fields involved.

We can no longer afford to neglect the needs of the masses of the democracy. There[3] is evidence that the people of a democracy have certain needs from science; in fact, the preservation of a democracy in a scientific age may be quite as dependent upon freedom of research as upon freedom of speech.

It is not in evidence, however, that provisions for tomorrow's scientists and for the future laymen are in conflict in the classroom. Through provision for individual interests we can give ample opportunity in the elementary school for the future scientists to introduce themselves to the field which will furnish them with a life vocation.

Although the majority of the students in the elementary school will never become specialists in the field of science, they will have very persistent needs to be supplied from this field. It would seem that the destiny of society is dependent to no small extent upon giving the masses a speaking acquaintance with science, the subject whose latent power can be used to benefit or to destroy civilization. Possibly our best means of guaranteeing the perpetuation of research in the social order is through the education of the masses to the function of science in a democracy, a task which may have its beginnings in the kindergarten. The good will of the masses toward science, founded upon an understanding of the place of science in society, would represent a greater endowment for the future of research than that which supports any of our modern scientific foundations.

What are, then, the needs of the laymen, the men and women who will not become specialists in science and who will never use any aspect of science as a life vocation? This, of course, is a large question and any answer given here must be subject to continuous revision. To answer this question we must survey the potential values of science to society and to the child.

Usually the first response in a discussion of values of science to society is the obvious one that science, through its modern inventions and discoveries, has transformed living conditions by providing a host of conveniences, comforts, and improvements. With this in mind, the curriculum maker would look about and list the thousands of

[3] *The Unique Function of Education in American Democracy*, p. 88. Educational Policies Commission, Washington, D. C., 1937.

discoveries and inventions which have resulted from science, including radios, automobiles, airplanes, and streamlined trains. This material should have a place in the curriculum, but such a limited view of the values which science education offers to society fails to afford proper guidance to the teacher and leaves out of consideration many of the vital issues.

Individual objects may be quite transitory in our civilization, as is indicated by the superseding of former inventions with new ones, and by the rapid changes that man has made in the fauna and flora of many regions. The teacher and the curriculum maker must look back of individual objects and constantly search for something in the field of science that has a more significant or persistent value. We must learn to observe the setting of the object in the universe, and its relation to the forces operating in the universe and to their meanings and implications in building a finer civilization. Acquaintance with or understanding of objects as the sole goal of instruction has frequently led to the use of object lessons and busy work, with consequent failure on the part of the child to understand matters of challenging and universal significance.

Science has produced much more than comforts and conveniences for society. Facts discovered by scientists concerning the nature of the universe or of man frequently are of such great significance that they cannot remain isolated, but, on the contrary, give rise to conceptions[4] which profoundly vitalize thinking in many fields and cause the redirection of human activities. In fact, it is difficult to find a sphere of human activity or thought which has not in some way or other been influenced by a conception of science.[5]

Professor Keyser has called these conceptions the permanent massive facts of life. They are not permanent in that they do not change; they are permanent only in that in the areas of thought represented by the conceptions there is permanence of human challenge. Man always will be interested in such matters as the origin of the earth and of life.

[4] Powers, S. Ralph and Others. "A Program for Teaching Science." Thirty-first Yearbook, Part I. National Society for the Study of Education. Bloomington, Illinois: Public School Publishing Company, 1932, pp. 53-55, 135-141.

[5] Craig, Gerald S. *Certain Techniques Used in Developing a Course of Study in Science for the Horace Mann School.* New York: Bureau of Publications, Teachers College, 1927, pp. 12-27.

It is plain that humanistic education must aim to orient and discipline our human faculties; not with primary reference to the technical requirements of any given pursuit, but with reference to all the great massive facts of life and of the world. A little reflection suffices to show that there are such facts.

One of them is the fact that every human being has behind him an infinite Past out of which he has come and which contains for his guidance and edification the records or ruins of all the experiments that man has made in the art of living in the world. . . .

Another of the great abiding massive facts of life and the world is the fact that all human beings are immersed in a boundless, perhaps infinite, universe of matter, force and emptiness; that they are literally parts of that universe; that their very existence depends upon it; and that they must acquire and maintain intelligent relations with it or fail in their efforts to achieve a good life. Humanistic education is thereby prohibited from neglecting the discipline of Physical Science, for it is to that that we must look for wisdom regarding the physical world.

Outstanding among the great enduring massive facts of life and the world is the fact that we humans are constrained by forces beyond our control to live in human society, not in isolation; that we are literally born members of a thousand teams with which we must learn to co-operate in some measure or perish.[6]

Conceptions may be grouped about the modern scientific ideas of space, time, change, adaptation, interrelations, variety, relation of cause and effect, and man's attempt to control his environment. Such conceptions cannot be listed as mere content but rather as interpretative ideas which serve to orient the individual to the natural and social events in the universe about us.

The race has been thousands of years in developing these conceptions and in abandoning the old superstitions. These superstitions are still with us and represent the shackles of an old order. The new conceptions represent a heritage that has been passed on to us as a result of man's search for truth and should not merely be treasured by the specialists, but rather should be shared with the masses, so that they, too, may profit thereby.

The modern conception of space has proved revolutionary in its effect upon man's thinking. It has helped man to develop from a geocentric and anthropomorphic individual thinking that the earth upon which he lived was the center of the universe, with all other bodies swinging about it, to an individual who has learned that he

[6] Reprinted by permission of Columbia University Press from Keyser, C. J. *Humanism and Science.* New York: Columbia University Press, 1931, pp. 209-211.

lives on a minor planet in a vast space of astronomical bodies and emptiness. The modern scientific ideas of time, change, and interrelationships likewise have been revolutionary to man's thinking and have changed his entire outlook upon himself, other living things, and his physical environment.

There has been considerable misunderstanding as to the point of view in science education which recognizes the importance of providing youth with an opportunity to grow in appreciation and understanding of the basic scientific conceptions of modern life. It has been inappropriately called the "generalization point of view." A word is necessary at this point to clarify some of the issues involved.

The conceptions are not opposed to the recognition and solution of problems vital to the child. The scientific conception either as a whole or as a part aids in the solution of the problems.

The statements of the conceptions are not in themselves the goals of the instruction. They are not aphorisms or proverbs to be written on the blackboard or in a book to be memorized. Rather they are expressions of ideas that have been of great significance in man's past and undoubtedly will be in man's future. They should be in the mind of the teacher or the curriculum maker and should assist in giving a perspective of values. Children should be allowed to live through experiences which would help them to gain increasing understanding of and control over the conception. In a sense the conception is never mastered or completed at any level of childhood or adulthood; the student from primary school to research levels can continue to learn more about, for example, the great age of the earth. The conception as it emerges for the child will become of increasing value to him in interpreting the events in the universe. In early childhood he may realize that the earth is a little older than his grandfather, and a little later, that it was here before George Washington, Columbus, the Vikings, or the Greeks. He may observe the action of weathering in the local region and in some small measure recognize the time involved. He may see how this action has been instrumental in developing soil and later in the course of his education may gain some appreciation of the long processes of change in other regions, the changes in the shape of the continent, the making and wearing down of great mountain systems, the great changes in the climates of the various regions of the earth, the story of the succession of life on

the earth, and the continuous operation of the natural forces. He may come to realize that the forces which have operated in the past are much the same as those that are operating today. This description may serve to indicate that it is not the statement of the conception that should in any sense be considered the objective but rather the building up of a background of ideas and experiences which are involved in the conception and which in turn make the conception understandable and acceptable to the learner as well as useful in interpreting new experiences. It is not memorization of facts that should be considered the goal but the growth of the individual along the lines of the profound truths of science. Experiences through discussion, excursions, laboratory experiments, and reading may be utilized in securing this growth. Emphasis shifts in this point of view from the learning of small content to interpretative experiences contributing to growth along the lines of these larger conceptions which have had such profound influence upon modern thought and activities and upon the development of a finer citizenship. As a consequence, stress is placed upon action, especially intellectual action, rather than upon considering the learner as a mere receptacle for facts.

The learner's reaction to a large number of events in the universe both past and present should have changed as a result of growth in the direction of the conception. An individual who has attained some understanding of the modern concept of time may find his ideas about the formation of the earth revolutionized from the primitive way of thinking that the earth, as it is today, is the result of a series of cataclysms through a period of only a few thousand years to that of considering it as the work of natural forces through immense eons of time.

It is evident that an understanding of this conception may change the scope and nature of man's thought reactions to questions and problems in several fields; even those of social phenomena may be involved. He may change, as a result of his study, from an individual who anticipates a catastrophe to destroy the entire earth and is therefore pessimistic concerning the permanent future of society, to an individual who sees no reason for not expecting the conditions necessary to life to continue for many ages to come. Hitherto, man has developed his society as if it were a transitory thing because he anticipated the end of the world at almost any time. This anticipa-

tion was based upon his primitive and superstitious conceptions of the earth through inaccurate interpretations of volcanic eruptions, earthquakes, hurricanes, floods, and like events. The modern concept of time has encouraged man to plan for the future of mankind, with the thought that the earth will be a home for mankind for thousands and millions of generations to come. Man's awareness of the problem of conservation of nature's resources and his planning for generations yet unborn are dependent upon his acceptance of the modern scientific concept of time. Thus we have an illustration of how a conception of natural science has had significance in a wide area of human affairs, even contributing to the development of new social attitudes and to the solution of current pertinent problems.

Likewise, other modern scientific conceptions, such as those of adaptation, interrelationship, and change, have had profound influence upon the thinking in wide areas of human affairs. Teachers at all levels should be aware of these conceptions and should provide opportunities for children to grow intellectually in the directions pointed out by them. Effort has been made to indicate to teachers through curricular source materials and children's literature in science some of the ways in which these conceptions may be utilized to interpret children's experiences with natural phenomena.

It should be borne in mind that these conceptions are comparatively new in terms of the long history of mankind on the earth. If one[7] could line up all one's forefathers on back through the dark ages, through the bronze and the stone age, one would have a sizable regiment of men. But in that long list it is not likely that more than one's own father, grandfather, and possibly great-grandfather could have had much more than a primitive conception of space, time, and change. Yet the child in the elementary school can know more about some of these things than the scientists did a century or so ago. This indicates the recency of some of our modern scientific ideas.

Although a conception is never mastered, in any final sense, still it can become a part of the whole learning process, entering into and directing it even in the primary grades. It can give enrichment to the experiences of the children in the elementary school under the guidance of the cultured teacher. It takes what otherwise might be

[7] Levy, H. *The Paradox of Science. Science in the Changing World.* New York: The Century Company; 1932, p. 37.

casual and dabbling experiences both within and outside of the classroom and integrates them into a total picture or pattern. This pattern is not a temporary one or an artificial one for it is based on the very nature of the universe—the earth, interstellar space, living things, matter and energy—and therefore the child may continue through life to integrate learning about these same general patterns and configurations and to interpret novel experiences by means of them.

For instance, the modern scientific ideas of time and change can make the teacher conscious of the indications of the operation of natural forces on the earth, both past and present, and this awareness assists the child in integrating about these basic ideas a whole series of natural phenomena, such as the washout after the rains, the rocks that have been worn smooth, the evidence of folded rocks, the glacial scratches on the rocks, the rocks that have been made from smaller particles, the prehistoric animals, the earthquake, the landslide, the havoc produced by flood. Each of these becomes a part of a larger configuration, a pattern, a perspective, and a key to interpretation of man's problem of utilizing natural forces to his own welfare. That the bit of soft rock crumbles in the hand may lead to the larger concept of time that it must have taken a long time for the forces of weathering to have produced the soil of the earth. This explains the fact that space, time, change, adaptation, interrelationships, and variety are sometimes called integrating themes. It also explains the fact that subject matter mastery can no longer be justified as an aim in science education. Instruction becomes a two-way process, an interplay between an educational value on the one hand and the experiences of the children on the other.

CONCEPTIONS RELATED TO SCIENTIFIC ATTITUDES

Belief in superstitions, astrology, hoaxes, and unfounded opinions is still manifest in the twentieth century. Probably one of the greatest needs in society today is the development of a realization of the place of scientific attitudes and methods in modern society. The elements of the scientific attitudes seem to be basic to the development of desirable social attitudes, such as international understanding.

Too frequently the approach to the training of youth in the use of scientific attitudes and method is based on the false assumption that the masses of youth in our classrooms are expected to become

producers of scientific research. Only a selected few can produce discoveries in the field of science, but control of the environment by man in a democracy surely can succeed only if that democracy is ultimately willing to follow the best expression of truth available.

It is important that the people of our democracy have enough training in the scientific attitude and method to realize the importance of securing information on all crucial matters from authorities rather than being swayed by emotions, superstitions, sentimentality, unfounded opinions, and gossip. An education to this end offers a real challenge to the elementary school.

"Attitudes are also necessarily concomitant with the understanding of ideas and understanding of methods."[8] It does not follow in practice, however, that the development of scientific attitudes should be incidental and accidental. Only on the basis of extreme opportunism could such a conclusion be reached. Scientific attitudes will not be secured by the mere teaching of science units. It is necessary to educate teachers in an understanding and use of critical thinking so that they will recognize and utilize the elements[9] of scientific attitudes and methods in their own instruction.

Examination of the history of man indicates that there are truths of science which have had potential values in the determination of the attitudes. The following are examples:

Man's conception of truth changes.

Much knowledge remains to be discovered.

There is a relation of cause to effect.

It is important to have confidence in the scientific method.

Conditions favorable to life are apt to persist on the earth for a very long time; no catastrophe for the entire earth is probable for immense periods of time.

Man has become an important determining factor of the environment of all life. His continued existence and advancement are dependent upon his wise modification and control of the environment.

It is interesting to observe that these ideas have made significant contributions to the problems of educational method. For instance, the teacher no longer needs to act as though the words of her mouth or the statements in the books were the utterings of infallible truth

[8] Powers, S. R., *op. cit.* p. 38.

[9] Curtis, F. D. *Some Values Derived from Extensive Reading in General Science.* New York: Bureau of Publications, Teachers College, Columbia University, pp. 41-49.

for all time. The teacher has become a more human individual, one who admits that she sometimes finds something to learn. Most of these ideas should permeate the instruction at all levels, beginning with the nursery school. They may take many different forms of expression. Ideally, they represent the spontaneous expressions of children in the course of instruction, which for our purpose here we shall call elements of scientific attitudes.

Much of the traditional material of nature study for children was motivated by distorted truth in the form of personifications of natural objects, and forces, and an emotionalism about "Mother Nature" was developed that tended to sugar-coat such aspects of nature as were thought to be unfit for children's eyes and ears. It was difficult for the child to determine through the traditional approach what elements of class instruction were true and what elements were not true. The modern trend seeks to divorce science in the elementary school from all forms of anthropomorphism, sentimentalism, superstition, animism, emotionalism, prejudice, and unfounded opinion, and to encourage the child to question the reliability of all sources through which information is secured. It is contended in the recent trend that the child has a right to the facts of the universe, undiluted by unscientific opinions and prejudices. In the study of science in the elementary school the reliability of the written and oral statement must, by the nature of science, have precedence over all other questions or problems. Fairy tale and fiction can have no part in the interpretation of natural phenomena undertaken as science.

It is not enough in the education of children to see that prejudices and other unscientific elements are eradicated from the instruction; we should make children clearly aware that these elements are unreliable. Children should come to recognize that scientific methodology is the greatest discovery of mankind and to appreciate the importance of basing their behavior and their responsibility to society upon truth, in so far as truth is obtainable, rather than upon emotions and prejudice.[10]

ELEMENTS OF THE SCIENTIFIC ATTITUDES

Scientific attitudes need no longer be given place in the elementary school on a purely accidental basis. There are elements of the scientific attitudes which develop in the thinking of children in the course of the solution of challenging problems. In the past we have made too little use of challenging problems or we have too lightly passed over these elements.

[10] Craig, Gerald S. "Science in the Elementary School." *International Understanding Through the Public School Curriculum.* Thirty-sixth Yearbook, Part II, National Society for the Study of Education. pp. 177-180. Bloomington, Illinois: Public School Publishing Company, 1937.

Examples of such elements which have been noted in the author's classes in the elementary school or observed in the classes of others are as follows:

This is the best explanation we have today. Sometime—possibly tomorrow, next week, or when we have grown up—scientists may find a better explanation.

There are many things that scientists are not able to explain at the present time.

Sometimes the discoveries of the scientist force us to change our ideas about many things.

We must ever be alert in securing reliable information on all important matters. Many times people and sometimes nations make serious mistakes because they do not have reliable information on matters of importance.

Sometimes we find that scientists do not agree in their explanations on many matters. We need not be surprised to find this true.

When one considers how old the earth is, one realizes that men have only been studying science a very short time. It is no wonder there is so much for scientists to discover.

We are not able to secure correct explanations of anything by guessing.

To make sure that we have the right explanation we must do very careful thinking.

It is interesting to check our thinking by doing an experiment.

Men can discover many things by doing experiments.

Frequently, however, people who are not scientists do not get the right explanations by performing experiments. They make mistakes and get the wrong answers.

The most reliable information can be secured from scientists who spend their lives working in those fields in which they are authorities.

We cannot depend upon opinions of people who have not made much careful study of what they are talking about.

Many people are not careful about the opinions they give. They do not check them to see if they are correct.

Many superstitions and prejudices that have no foundation in fact are passed down from generation to generation for hundreds of years.

It is sometimes necessary for scientists to try to give explanations for matters about which they are not sure. Such explanations are not guesses, because the scientist may spend years in developing the explanation which he hopes to prove or disprove. As soon as his explanations are found to be unsatisfactory, the scientist no longer holds to them.

So far, curriculum makers have failed to clarify for teachers the scientific attitudes in terms of the learning process. These elements are listed here to indicate the direction which is being taken by in-

vestigation now under way in elementary science. These elements of the scientific attitudes are not aphorisms or golden texts to be memorized but rather represent the type of thinking that has occurred in classroom situations. It should be noted that these elements are not the special property of any one area of human knowledge and for that reason may be considered generalized. The teacher should see that the elements of scientific attitudes are the outgrowths of challenging problems and are thus associated with a variety of areas of the natural sciences and social studies.

CHILDREN'S PARTICIPATION IN DIRECTING INSTRUCTION

It has become increasingly apparent that children should have a part in defining what they are to study if education is to attain the values that have been set forth here. Frequently the teacher fails to see the difficulty or misconception that obstructs the way of learning because she has inhibited the free expression of the children. Traditionally, education consisted of blocks of content poured down upon the child. The recitation was characteristic of this type of education; the child learned the blocks of content and recited them to the teacher. Little initiative was called for on the part of either the teacher or the pupil. There was little inquiring by the teacher to determine whether the children were ready for the blocks. The questions were asked by the teacher and all too frequently they were poorly framed and devoid of any challenge other than that to win a grade or the teacher's approval. In many classrooms this sort of teaching led to the creating of barriers to critical thinking.

Frequently and naturally, children's questions in the course of an activity are more challenging than the ones asked by the teacher. Furthermore, children's questions and statements are useful in defining problems. The cultured teacher plays as significant a role in the direction of instruction as ever; in fact, the new role calls for a greater skill, for she utilizes not only her own thinking but the child's as well. The teacher should be aware of the directions of the values of education and make sure that the children are developing in those directions.

For instance, in the development of the conception of time it is important to provide for opportunity for children to express their ideas of time without restraint. The teacher may have the opportunity

to refine these ideas. A nine-year-old recently expressed the idea that the mountains in the eastern part of the United States were formed about the time of the arrival of the Puritans at Plymouth. This expression added to others from the class provided opportunity to extend the child's concept of the age of the earth.

In another group made up of six-year-olds, the children expressed the thought that a dry cell contained electricity, that electricity could be seen, and that the liquid leaking out of the worn-out dry cell was electricity. These expressions gave opportunity for problem situations demanding experiments in which the children set the problem, proposed the method of procedure, and participated in drawing the conclusion.

Some children in a rural school group thought the sun was as large as a near-by building, while others thought it might be as large as a mountain. These expressions led to the development of a more adequate conception of space.

Much of the instruction in the elementary school is characterized by haste which inhibits critical thinking. From one content item to another we hurry on, creating a false pressure upon both teacher and children. This pressure is alien to the child's natural tempo and rhythm. Many teachers would do well to relax with the children and to remove some of the restraints which inhibit thinking. We should provide opportunity for the learner to react to the learning, for a learning element to be absorbed, to be thought over, to become acceptable in a real sense. Many teachers have learned the importance of providing opportunity for an idea to be tossed about in the thinking of the group, to be tested out through simple experimentation or through observation on excursion, and to be checked against authentic sources; the children participating with the teacher in the thinking and in guiding the instruction. Teaching science in the elementary school is not a mere matter of the presentation of the content in science.

Some of the phases of instruction that may be shared with children are: proposing problems, defining problems, suggesting methods for solution of problems, relating experiences to the solution of a problem, suggesting observation that may be made, thinking through the problem, suggesting an experiment that may be made to solve the problem, assisting in drawing conclusions, assisting with experiments,

improving the experiments, finding flaws in experiments, questioning the authority of written material, questioning superstitions, myths, and unscientific material, discarding opinions, and recognizing the difference between the solution proposed by class members and scientific information.

MANY CENTERS OF INTEREST FAVORABLE TO A ROUNDED-OUT DEVELOPMENT

Growth is hampered frequently by the zeal for exhaustion of topics. Teachers often feel a need for pushing the instruction in order to finish a given unit or block of work; thus sometimes destroying the challenge the subject may hold for the children. It is important that the children have a good feeling toward the content and the problems of a given area as they move on to the consideration of new needs. In science a subject can never be mastered or finished, for there is always something more to be learned. The children should never have the feeling that the subject has been exhausted and that they will never have any further problems in the area involved. Rather they should have an active realization that there is a wide range of problems remaining for study and for discovery in later education and that many of these interests can be continued as problems of social significance or as hobbies and leisure-time activities. The interest engendered in the problems involved should remain active for some time, possibly even a lifetime, reviving with current events and new developments in the classroom or in the community.

Teachers should realize there are other teachers and other educational agencies that will follow them in the education of children. It is a part of the knowledge of good teaching to be aware of a suitable time to move on to the consideration of new needs. This means a sensitiveness to the adjustments and reactions of the children to the problems involved.

The vogue for centering the work about one dominating unit has sometimes led to unnatural and forced correlation and has not always been congenial to the rounded-out development of the child. Science instruction need not be focused about one large center of interest for any long period of time. There may be many interests in the course of the year or even at the same time; some of these may focus in a relatively small problem which can be quickly solved, whereas others

may lead to an entire series of related problems involving content and procedures from a number of subject matter fields. In considering the child we must make certain that we do not restrict him to a narrow segment of the environment but rather provide him with opportunities to adjust himself intellectually to the entire environment. This means in science that we have opportunity to develop in understanding of interstellar space, earth, living things, physical forces and phenomena, and man's attempt to control his environment. In this way we may secure a rounded-out curriculum.

It would seem that at least the following four types of activities must play an important part in the teaching of science in the elementary school in the future.

Discussion. Free discussion is necessary in defining the problems, developing the method of solution, revealing misconceptions, and utilizing critical thinking. But discussion of itself does not reveal truth.

Experimentation. Every classroom should be a laboratory. Experimentation assists in the interpretation of phenomena and in the development of scientific attitudes. Discussion is essential to experimentation. However, in the final analysis, only authorities in a given field can be depended upon to secure correct conclusions from experiments. All conclusions derived from experimentation in the elementary school should be checked, therefore, with authentic sources.

Field Trips. Children should be given ample opportunity to study phenomena in their natural habitat. Opportunities for teachers to prepare themselves to guide their pupils in the study of the science of the out-of-doors are now available.* It must be kept in mind, however, that only authorities in a given field can be relied upon to draw correct conclusions from observations. All important conclusions should be checked with authentic sources. In several of the European countries greater use is made of field trips than in this country.

Reading. The study of science cannot be complete without resort to authentic literature. The members of the group should learn that they cannot rely upon discussion, experimentation, or field trips for truth in any final sense. They must go to authorities for the best explanations. Reading of authentic material may be utilized at all phases of problem solving.

* The department of Natural Sciences of Teachers College has developed such a center at Lakeville, Connecticut, during the June intersession.

THE CLASSROOM TEACHER AND THE SPECIALIST

Considerable effort has been made to prevent science in the elementary school from becoming departmentalized. It should not become a subject taught solely through the specialists in separate periods completely divorced from the rest of the curriculum and the other experiences of the children. The classroom teacher is an important key to the successful science program. In keeping with this principle a number of states are offering a program of education for classroom teachers in science which will give them a cultural and professional background for the teaching of science in the elementary school.

However, it is becoming increasingly evident that specialists are needed in many systems, less as departmental specialists and supervisors than as consultants. As such, they participate in the responsibility for instruction in the classroom, in helping teachers to get materials and in conducting excursions, in preparing bulletins of local information and curriculum materials, and in the training in service of elementary school workers.

In some elementary schools a special room is set aside as a science laboratory. Such rooms should be used to supplement the work of the classroom, rather than as centers for departmentalization. At the present time, laboratories[11] are functioning well in school systems where the science specialist is used as a consultant.

The selection of equipment and materials for elementary science should be based upon the needs as indicated by curriculum investigations.[12] The trend at present is to utilize relatively simple apparatus, based on the needs of the children in the elementary school rather than on the demands of a specialized field.[13]

[11] Craig, Gerald S. "The Place of the Science Workroom in the Elementary School Program." *Science Education,* Vol. XIV, No. 4, May, 1930, p. 582.

[12] Brunstetter, M. R. *How to Use the Educational Sound Film.* Appendix II, "The Integration of Sound Films with Elementary School Science," by Melvin Brodshaug. The University of Chicago Press, 1937.

[13] Craig, Gerald S. and Others. *Teachers' Manual to Pathways in Science.* Boston: Ginn and Company, 1932.

A Study in Social Behavior

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BEGINNING in October, 1936, the present study in social behavior among pupils of elementary grades was undertaken by the writer through the Division of Psychology, Institute of Educational Research, Teachers College. The plan is so designed as to encourage the pupils themselves to assume the leadership, ordinarily left to the teacher, in improving their social behavior. The procedure by which this is accomplished is the outgrowth of the self-aid technique developed in a series of studies which the writer has been conducting during the past several years through The Civics Research Institute and The Psychological Institute.

BACKGROUND OF THE PRESENT STUDY

In 1932 The Civics Research Institute, under a grant from The Payne Fund, undertook to develop teaching methods which would definitely influence attitudes and affect social behavior and also to develop instruments for measuring attitudes and to discover criteria for evaluating behavior. One project was directed toward building desirable civic attitudes and securing active participation in civic affairs. In order to accomplish this purpose it was decided to establish National Civics Clubs.

A National Advisory Council of Superintendents, consisting of three superintendents from each state, co-operated in establishing chapters of the National Civics Clubs in each of their school systems. During the last four years, sixty thousand junior high school pupils have participated in these clubs as part of their regular class work in community civics. A teaching method has been developed whereby pupils, with the aid of specially prepared materials, are enabled to secure at first hand pertinent information regarding problems of their own community, to discuss these problems from a practical point of view, and to participate actively in community situations. Teachers

report that the program has been successful in bridging the gap between the classroom and life situations, and that, by providing a background for discussion, the method has vitalized class work and has given pupils a basis and a desire for oral and written self-expression. They also report that the pupils have developed, to a greater extent than through the usual class procedure, self-confidence, initiative, and the ability to work well with their fellow pupils and to accept criticism from them, as well as the ability to think through pertinent local social and political problems in an intelligent manner.

Considerable research has been directed to the developing of attitude tests as a basis for further appraisal of the program. These tests, together with information tests, have been administered to representative groups of pupils participating in this study, to pupils taking the usual course in community civics, and to pupils not taking any course in community civics. In addition, statistical methods are being used to determine the relationship between information and attitude. An attempt is also being made to develop a behavior index as a basis for determining the extent to which information, attitude, and club experiences separately and collectively influence behavior.

This earlier study has made evident a need for more adequate methods of dealing with social behavior in the elementary grades. This need, which had made itself felt in the civics study, was one of the factors that led to the more extensive research program in social behavior now being conducted.

During these same years a grant to The Psychological Institute from The Carnegie Foundation for the Advancement of Teaching enabled the writer to conduct a study of English-teaching methods in the elementary grades. As a part of this study, special materials and techniques were developed for the integrating of English with social studies. During 1935-1936 six school systems co-operated in a special program, the purposes of which were both to vitalize English work and to develop a more direct approach to the improvement of social behavior. This latter program indicated the possibilities of such a study as the present one.

The programs just discussed constitute the background of the present study, which has been set up in the Division of Psychology, Institute of Educational Research, Teachers College. Funds for this study were transferred from The Civics Research Institute.

PRINCIPLES AND PROCEDURES IN THE SOCIAL-BEHAVIOR STUDY

The pupil is asked to draw from his own experience concrete examples of personal acts and characteristics which cause people to be liked or disliked. In this way, he is given an opportunity to arrive at conclusions as to how his own actions and behavior tend to make others like or dislike him.

One device used in the initial phase of the study is the development of behavior charts for each of the fourth, fifth, and sixth grades in the co-operating elementary schools. These charts will be developed largely by the pupils themselves, experience having shown that the best way to insure willingness to use such a chart intelligently and to accept it as a valuable tool is to have the group for which it is intended actually assist in its construction. Because the pupils are assisting in the construction of the charts, they feel that they are entirely responsible for their development and use, and to a great extent this will be true.

The following procedure is used in the development of the charts: Each class is given an instruction sheet which calls the attention of each pupil to the fact that there are a number of things done by some children and some grown people that cause others to dislike them. The child's attention is also called to the fact that sometimes people lose friends by doing these things. The following is reproduced from the instruction sheet:

> Look at the following list, which we shall call List I:
>
> We often dislike a person who:
>
> 1. Interrupts others when they are speaking
> 2. Takes advantage of those who are not so strong or bright as he, or have less money
>
> We also know that there are a number of things some boys and girls do that cause others to like them. Look at this second list, which we shall call List II:
>
> We usually like a person who:
>
> 1. Plays fair
> 2. Keeps promises

Each class is divided into committees of not more than five or six members each. The children in each committee discuss and write those items which they think should be added to List I and also those items which they think should be added to List II, together with the reasons why they consider these items important. The committee

members then discuss each item listed and give concrete instances from their own experience to illustrate such a mode of behavior, and to show, if possible, its effect on other persons and how it caused the person acting in such a way to be either liked or disliked. Each committee then selects, from the items which have been discussed, the one item which the pupils believe to be most important for List I and the one item which they feel is most important for List II. They list these items, together with the reasons why they selected them as important.

It is important to help pupils to overcome undesirable habits. It is equally important to help them to strengthen their good points. For this reason the list of positive qualities is included. Directing attention to the strengthening of desirable qualities not only is vitally important in itself, but also militates against a tendency to make pupils over-conscious of their weak points.

Eight thousand committees, comprising fifty-four thousand pupils, have completed the first step of the study. Lists decided upon by the committees have been sent to the Institute, and summaries of likes and dislikes are now being compiled for each grade. As soon as this compilation is complete, the lists will be returned to the committees with suggestions for further discussion.

After the committees have carried out the suggested procedure, general class discussions will be held. The pupils will select fifteen points to be adopted as a tentative social-behavior chart for the class. Each class will forward a copy of its chart to the Institute. All the charts submitted will be summarized, and a copy of the summary will be sent to each class taking part in the study. The pupils may adopt items from the summary to be added to their own chart.

It may not be amiss to emphasize the importance of pupil participation in building the charts as a means for creating interest in the standards thus developed and securing acceptance of them. Adults react to a ready-made code in precisely the same way as do children. Some years ago I developed an efficiency rating scale for a police department, only to find both men and officers hostile to the instrument to the extent of being unwilling even to give it a trial. I discarded the sheet and asked each sergeant to ask such of his men as were willing to do so, on their own time, to list those actions of policemen which they felt should count in their favor toward promo-

tion, and those which they felt warranted reproof or dismissal. All the men on the force responded. Their statements were grouped under general headings and resulted in a rating sheet which was made by them. They decided that this sheet would insure more careful consideration by superiors of meritorious acts and would tend to remove favoritism in promotion. The new form was very similar to the one previously drafted. Their participation had sold the form to the men. Their own statements were often more specific and meaningful to officers and men than those on the original sheet. Likewise they included in the negative list some important items which previously had not been recognized as common offenses. In view of this experience it seems not too much to expect that the pupils also will report similarly important items and that the chart will be meaningful as well as acceptable to them.

The second and third years of the program will be devoted to the development of attitude tests for elementary grades and of behavior criteria for evaluating the program.

SOME RESULTS OF THE FIRST STEP IN THE PROGRAM

In order that the reader may judge whether the lists prepared by committees represent thinking on the part of the pupils in terms of their own experience, or mere generalizations which they have heard, a few points listed by sixth grade committees are presented:

We dislike a person who: takes things that don't belong to him, tells things that aren't true about others, tries to get out of things, is two-faced, is a tattle-tale, is a smart-alec, is always bragging, bosses others around, makes fun of people, makes fun of poor people's clothes, bullies smaller children, quits when he is about to lose, calls people names, lies, cheats, is selfish.

We like a person who: is willing to do his part, keeps a secret, tells the truth, stays with you when you are in trouble, can be trusted, helps others, minds his own business, is kind to animals, controls his temper, is a good loser, owns up when he is wrong.

An interesting point is that, in the sixth grade, 95 committees thought it important to add, "We dislike a person who steals" to the list of traits they disliked in others; 183 additional committees considered this point in their discussions. On the other hand, only nine committees thought it important to add, "We like a person who does not steal" to the list of traits which they liked in others, while

58 additional committees considered it. Sixty-nine committees added "cheats" to the list of traits they disliked in others, while 144 additional committees discussed it; but only six committees added "does not cheat" to the list of traits which made them like others, with 47 other committees considering it. The same trend was evident in the material received from the fourth grade.

When pupils' thinking is directed to such specific actions as cheating and stealing, and when they use specific examples as an aid in determining their actual likes and dislikes, then we find that they decide for themselves that they dislike people who cheat or steal and that such acts tend to break friendships. On the other hand, they see that they select friends not so much because they do not cheat or steal as because of other positive factors which they have listed. This thinking is clearly reflected in their placing of "cheat" and "steal" prominently among factors to be considered for List I and by their not listing such items as "does not steal" in List II.

It will be apparent that pupils are doing more than accepting a code. This technique is not just a roundabout way of selling a code of behavior to pupils. They not only become aware of the desirability of avoiding or overcoming actions that cause them to lose friends but also they learn what these actions and habits are. Likewise they can see that making friends requires more than the avoiding of undesirable actions.

Some general statements were listed by committees, such as "We like a person who is honest" and "We dislike a person who is impolite." Such general terms as "honest" and "dishonest" are listed in about the same proportion in the positive and negative lists.

Such generalizations as "honest," "dishonest," "polite," and "impolite" will be assigned to various committees, with directions to indicate specific examples of ways in which boys and girls display these characteristics. On the basis of the analysis they can better judge whether or not these characteristics belong among the fifteen most important items which they are to select for the chart.

VALUE OF THE PROGRAM TO CHILDREN PARTICIPATING IN IT

The practical effect on pupils of participation in the study may be best judged at this time from the reports of teachers and supervisors

co-operating in the program. Their reports indicate that the program:

1. Gives promise of bringing social behavior within the understanding of the pupils.

The value of this work lay in the opportunity it afforded the children to think through—in their own way—the traits which they knew determined the degree of their popularity with others, yet which they had never had brought to their attention so pointedly.*

Since we have been working on this chart my class has shown a decided improvement. They have become conscious of the different traits that were discussed in class and are striving for self, as well as class, betterment.

2. Teaches pupils to work with others in what appeals to them as dealing with life problems.

It has served to inculcate a more friendly and cooperative spirit in the room.

3. Causes the pupils themselves to set up standards which show them, with reference to actual situations, what to do in order to secure the good opinion of the group.

The children originate and make their own standards of social behavior, and are more willing to live up to their self-made patterns of behavior.

4. Motivates pupils to strive for the social approval of the group.

Nearly everyone in the class is anxious to live up to the "likes" of the class and avoid doing the things on the "dislikes" list. One group remarked, "It makes us want to improve ourselves."

It is a valuable aid in correcting problems in discipline.

5. Encourages pupils to think.

I consider this a valuable piece of work, because it challenges every member of the class to do some independent thinking about social behavior. When asked if this work was more important than spelling or arithmetic, one child answered, "Yes, because it helps us to think better, and in that way do better work."

The committee work, the discussion periods, and the definite analytical thinking necessitated in this study have been a valuable experience, and have benefited the children. Concrete instances cited as reasons for selection of various traits were far more meaningful than a teacher's generalizations could be.

Many teachers have seen also the significance of the program in providing a background for more vital and purposeful English discussion:

* The material in small type is quoted from the reports.

It improved our oral English and taught the pupils to think clearly. The classes were very much interested and had worth-while discussions on the topic.

I think this is a very profitable plan because it has given the children excellent training in the many phases of English as well as in the ability to evaluate good behavior.

Meeting in small groups to carry out a definite aim incites a co-operative procedure that tends to be a closer-to-life situation than the ordinary recitation.

The discussions were spontaneous and free. They challenged the thought, originality, and initiative of the pupils. The lessons provided a real social situation.

The superiority of the committee technique over general class discussion was demonstrated by the experience of teachers who, in a preliminary program, had the class as a whole conduct the discussion, and later used the same program with the class divided into committees. They report that in the general class discussion pupils failed to respond as they did when they talked in small groups. The committee method insures participation by each member. Members of committees accept the problem as their own, discuss their ideas in specific terms, and give actual examples.

It will be apparent from the results cited that the first phase of this program has been successful in developing in the pupil an appreciation of the fact that certain attitudes and actions vitally affect his own happiness, because they determine the extent to which he is liked or disliked by his associates. The pupils are motivated to think through various instances of good or bad behavior and the way in which they influence their own and others' likes and dislikes. Their attention consequently is drawn to the social behavior of themselves and others in a significant way. Thus, even if pupils engage only in this first step, and do not later go on to the next step of the project, they have had a valuable and productive experience.

The first step in the social behavior program, as explained herein, presents few difficulties from the point of view of methodology. It is recognized, however, that succeeding steps present a challenge in methodology and technique which will require the co-operative efforts of many educators.

A Plea for the Integration of School Guidance Activities*

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THE conditions regarding the guidance programs in the public schools of the country are indescribably chaotic. Visits to schools in different cities reveal no two of them operating their guidance activities in exactly the same way. In one the emphasis is on vocational guidance, in another guidance means the work of visiting teachers, in another guidance is handled by means of a community child guidance clinic, in another there is an elaborate system of grade or class counselors and homeroom teachers, and in another a school psychologist administers tests. In some of the larger city systems there may be several of these guidance activities operating independently and sometimes quite unrelated to one another. In some cities where the problem has been grappled with directly and an attempt has been made to provide for all of the various guidance activities the complexity of the problem may be seen by the elaborateness of the organization designed to meet the situation.

It is the purpose of this paper to trace the several lines of development in the guidance field in order to show how they are today rapidly converging in a focus on the child in school and how the convergence of these several streams of development is resulting in confusion and in some instances misunderstanding and professional friction. This paper also proposes to offer suggestions looking toward a utilization of the contributions which the growing guidance movements have at present to offer. Certainly when schools can avail themselves of *all* that the various developments in the field of guidance have to offer and can integrate them into a unified program the result will be a tremendous increase in effectiveness in educating for the personality adjustments of each individual child.

*Acknowledgment is gratefully made to my assistant, Mr. J. P. Anderson, who helped in the preparation of this paper by locating much of the historical material which is included.

PERSONNEL ADMINISTRATION

A first professional group concerned with guidance in schools are the deans and other administrative officers who have charge of personnel administration. The office of dean has emerged from the distant past. In small colleges the president of the institution has had the personal and disciplinary problems of the student body as his responsibility, but as an institution grows in size these special functions have been turned over to "deans." It is significant that from the personnel point of view "deans of women" were the first to clearly emerge. As women began to go to college in larger numbers a demand arose for their supervision to insure their "protection" according to the standards of society. Matthews opens her book, *The Dean of Women,* with the statement[1]

> There is in almost every coeducational institution in the United States an official whose chief duty is usually vaguely stated to be "the care and supervision of women students." So unstandardized is the position this official occupies that even the title varies from that of "dean of women" to "adviser of women," "preceptress" or even "lady principal"; furthermore, in one case at least, the "dean of women" is a man! The position is often but that of an apotheosized chaperon; it varies from the place of an administrative officer, on a par in importance and dignity with deans of the various colleges which make up the whole university, to the mere presence in a community of a gracious and charming woman who "loves girls."

This administrative position in personnel later found its way into secondary schools. The position came in unobtrusively as an assistant principal in larger schools, a man who took over some of the routine duties concerning attendance, discipline, and supervision of student activities which the busy principal found himself unable to handle. In high schools also the position of "adviser of girls" or "dean of girls" emerged first as an administrative office especially concerned with personnel. Marion Brown has classified the problems which are handled by the dean of girls in a high school as follows:[2]

1. Those involved in educational and vocational guidance
2. Discipline cases involving offenses against constituted authority, good taste, moral standards, and rights of others
3. Social problems stressing especially relationships with other persons in the school situation

[1] Matthews, L. K. *The Dean of Women,* p. 1. Houghton, Mifflin Co., 1915.

[2] M. Brown, in "Organization of the Dean's Work in the Secondary School"; Chapter 3 of Sturtevant, S. M. and Hayes, H., *Deans at Work.* Harper & Brothers, 1930.

4. Those problems of physical and mental health which affect the child's school progress
5. Economic factors which enter into the life of the girl as a student

Professional organization of those charged with the responsibility of student personnel administration has been of relatively recent origin. The National Association of Deans of Women started in 1914. The deans of men were somewhat slower in organizing. They first met as a Conference of Deans and Advisers of Men in 1919.

Somewhat more recently another personnel organization has made its appearance. Starting in 1924 as a National Association of Appointment Secretaries, this organization changed its name in 1929 to the National Association of Placement and Personnel Officers and in 1931 to the American College Personnel Association. Today the interests of the American College Personnel Association have broadened to include almost all of the problems of college personnel.

In 1934 the number of associations interested in guidance and personnel had multiplied to such an extent that some sort of co-ordination was deemed advisable and the American Council of Guidance and Personnel Associations was formed. The council states as its aim "the responsibility of effecting co-operation among the associations to the end that mutual acquaintance may be cultivated, and principles, practices, and professional standards in this field may be advanced. It undertakes to foster the aims that these organizations have in common, without in any way minimizing their activities in carrying out the special aims of each association in its own field."

The term "student personnel administration" has in recent years come to stand for the activities of these various administrative officers who are concerned with student welfare, advisement, and social life in schools and colleges. These professional groups have with a good deal of justice thought of themselves as speaking for guidance in schools. Certainly they do inasmuch as their responsibilities include guidance functions. These administrative officers also recognize that certain guidance activities belong to specialists with specialized training, even though these specialists are seen to occupy clearly defined relationships to the chief personnel officers who occupy administrative positions. Yet in the sequel it will be shown that the very fact that these are *administrative* officers prevents their performance of

certain important guidance activities which require that the person who performs them should not have administrative responsibility.[3]

VOCATIONAL GUIDANCE

Guidance means vocational guidance to educators more than it means anything else. This is probably a fortuitous circumstance due to the fact that vocational guidance was developed by a group of men with energy and persistence and was the first phase of guidance to become organized in schools. When one surveys the whole problem of individual adjustment, selection of a vocation is seen to occupy an important but on the whole restricted place among the many problems which arise.

The present movement in vocational guidance can be traced back to the efforts of Frank Parsons, a far-sighted innovator, who worked out practical and reputable methods of helping young men to understand their own vocational aptitudes and to select wisely a vocation. Parsons became associated with the Civic Service House in Boston, established in 1901 by Meyer Bloomfield, its director, and in 1908 there was established the Boston Vocational Bureau under the guiding influence of Parsons. His posthumous book, *Choosing a Vocation* (Houghton, Mifflin, 1909), was the first textbook in vocational guidance and Parsons used the term "vocational guidance" in his first report to the Vocational Bureau in practically the same sense that it is used today.

The vocational guidance movement spread rapidly. In 1910 vocational counselors were appointed in every high school in the city of Boston. Conferences were held in various cities during these early years and in 1913 the National Vocational Guidance Association was

[3] For this section on personnel officers there were no really comprehensive historical surveys. I have had recourse to the annual yearbooks of the National Association of Deans of Women, the National Association of Deans of Men, and the American College Personnel Association. The series of three studies conducted at Teachers College have been of limited help: Jones, J. L., *A Personnel Study of Women Deans in Colleges and Universities,* Contributions to Education, No. 326, Teachers College, Columbia University, 1928; Sturtevant, S. M. and Strang, R., *A Personnel Study of Deans of Women in Teachers Colleges and Normal Schools,* Contributions to Education, No. 319, Teachers College, Columbia University, 1928; and Sturtevant, S. M. and Strang, R. M., *A Personnel Study of Deans of Girls in High School,* Contributions to Education, No. 393, Teachers College, Columbia University, 1929. Sturtevant presents some facts concerning the development of this work in high schools in her article "The Dean of Girls in the Secondary School," *School and Society,* 27: 62-67, Jan. 21, 1928. Mary Hooker Johnson's *The Dean in the High School* (Professional & Technical Press, 420 Lexington Avenue, 1929) gives additional facts concerning the development of deans of women in the high school.

founded at a meeting in Grand Rapids, Michigan. This association is in reality a federation of local or branch associations of which there are forty-two at the present time scattered throughout the country. The *Vocational Guidance Magazine* was established in 1915.

In 1933 the Carnegie Corporation made possible the establishment of the National Occupational Conference, an organization which was to be a "clearing house" of information with regard to occupations and fosters vocational guidance and the study of vocations along many lines. This organization took over the publication of the magazine of the National Vocational Guidance Association which changed its name to *Occupations—the Vocational Guidance Magazine*.[4]

So it may be seen that vocational guidance is strongly entrenched in schools, being stimulated in recent years by generous grants from a large foundation. Vocational guidance has built up its own organization in schools using vocational counselors, classes in occupations, and special aptitude tests.

CLINICAL PSYCHOLOGY

Psychology has made its contribution to guidance in the schools with a different emphasis, sponsored by a different professional group, and making its influence felt by a different phase of school organization. The groundwork of clinical psychology was laid in the fundamental work in experimental and testing methods developed by Wundt, Ebbinghaus, and others in Germany, and Cattell in this country. Lightner Witmer, who succeeded Cattell at the University of Pennsylvania, established the first "psychological clinic" in March, 1896, and received as his first case a chronic bad speller.[5] Binet's test

[4] Sources consulted for this survey of the development of vocational guidance include:
Brewer, J. M. *The Vocational Guidance Movement,* Chap. 2, "Beginnings in Vocational Guidance." The Macmillan Co., 1918.
James, A. J. *Principles of Guidance,* Chap. 24, "Present Status and Future of Guidance." McGraw-Hill Book Co., 1934.
"A Conference in Conference," *Occupations,* 12: 31-48, June, 1933.

[5] "Clinical psychology is not synonymous with medical psychology. Clinical means literally bedside, and was applied originally to the first-hand bedside method of studying the individual patient. In psychology it designates the method of determining the mental status of an individual child by first-hand observation, testing, and experiment. It may be used in the study of normal as well as of abnormal mentality. We may suggest the use of the words *psycho-clinical* and *medico-clinical* to designate, respectively, psychological and medical examinations by the clinical method." J. E. W. Wallin in *Journal of Educational Psychology,* 2: 122, 1911.
This quotation is significant as it defines the field which clinical psychology has appropriated as its own down to the present day.

which was introduced in this country in 1908 by Goddard, standardized by Goddard in 1911, by Terman in 1915, and standardized again by Terman in 1937, gave impetus and direction to the work of clinical psychology. The development of group tests by Pyle in 1913, Thorndike in 1914, Pintner in 1917, W. S. Miller in 1917, and Otis in 1918, followed by the construction of Army Alpha by a distinguished committee of psychologists during the war gave still further impetus to the contribution which psychologists could make to practical guidance in schools through mental testing.

The contributions which psychology has made to education have been conditioned by the fact that psychologists have been principally scientists and psychology has been taught as a scientific (or philosophic) discipline in an academic department of a university or college. Wallin[6] in discussing applied psychology says:

> Its services thus far have been most valuable, perhaps, to education and medicine, and the outlook in these fields justifies the expectation that we shall soon have to christen two independent sciences—the science of experimental pedagogy and experimental psychopathology (with psychotherapy).

Psychologists interested themselves in their first contacts with public education with the mental deviate. In 1899 a department of child study and pedagogic investigation was established in the public schools of Chicago to make studies of normal and special children—the blind, deaf, truant, retarded, etc., and regularly examine candidates for admission to the city normal school. Wallin[7] stated in 1911:

> During the last few years there has come a radical and gratifying change of attitude on the part of educational experts toward the exceptional child—the *retarded* (idiot, imbecile, moron, laggard), the *accelerated*, and the cripple, epileptic, speech defective, blind, deaf, and mute.

A more recent interest of educational psychologists concerns deviations from the normal in learning the school subjects. Gates, Thorndike, Gray, Dearborn, Monroe, and others have made investigations of the nature of reading, and have developed tests of reading and their use in the clinical study of cases of reading disability. Similar analyses of the process of learning arithmetic, handwriting, spelling,

[6] Wallin, J. E. W. "The New Clinical Psychology and the Psycho-Clinicist." *Journal of Educational Psychology*, 2: 121-132, 191-210, 1911.

[7] *Op. cit.*

and other tool subjects have resulted in diagnostic devices for studying cases of disability in these subjects.

Educators themselves were active during this period in applying more precise and rigorous methods to the measurement of educational products. A Baltimore superintendent of schools, J. M. Rice, in 1894 used a uniform spelling test. Thorndike constructed the first "scale"—his handwriting scale—in 1909.

It is significant that psychology should have allied itself to the co-operative research movement in public education and has made its contribution to guidance by way of the bureau of research, for this indicates how seriously psychologists took themselves as scientists in the early days of applied psychology. To quote from Wallin's[8] paper again:

> In view of the fact that the intelligent educational public has now accepted the proposition that the changed industrial and social conditions of modern life necessitate the organization of various new school agencies—departments of medical and dental inspection, of school hygiene, of experimental pedagogy, of social survey work, of psycho-clinical laboratories for the examination of exceptional children—it seems well to discuss the functions of some of these departments, the nature of the examinations which should be given and the qualifications needed by the examiners, particularly the psycho-clinical examiners. First a warning. The results of these various branches of investigation and study are liable to run to seed unless they are properly unified, consolidated, and brought to a focus. There is need, therefore, of a central, unifying *bureau* or *department* of *school research*, in charge of a *director* of *school research*, where the data collected by the various examining agencies may be gathered, preserved, compiled, compared, correlated, interpreted and turned to practical use. . . . The *director* of such a bureau should be an expert in child, educational and clinical psychology, who has done distinctive work in these fields. . . . Conceived in this large way, the bureau of school research would become a large scientific, educational clearing-house, a vital agency for the scientific correlation of pedagogical facts and a potent instrument for the dissemination of reliable educational data. . . . When the establishment of a bureau of school records upon the comprehensive plan sketched above is not feasible, the most urgent need should be provided for, namely, the establishment of a *clinical laboratory* for the grading and examination of exceptional children.

The establishment of bureaus of research in city school systems was closely related to the survey movement. The survey of the schools of New York City in 1912 was the first of a long series of similar sur-

[8] *Op. cit.*, pp. 193, 194, 198.

veys in which the use of standardized tests has been a prominent feature. The beginnings of the development of bureaus of educational research in city school systems dates from about 1912 although the first bureaus to be organized did not always include psychological testing as among their functions. Rochester established a Child Study Department in 1912, New Orleans a Division of Educational Record in 1913, St. Louis and Louisville bureaus of research in 1914, and other cities in increasing numbers in succeeding years. Wallin was the first director of the St. Louis bureau. Most of these bureaus considered psychological testing as one of their important functions.

So far as I am able to determine the term "school psychologist," referring to an individual trained in psychology and serving a school in that capacity as a regular member of its staff, first appears in print in an article by R. B. W. Hutt[9] in the *Psychological Clinic* in 1923. School psychologists were early employed by private schools and smaller school systems which were unable to avail themselves of a more highly organized clinic. Walter[10] stated in 1925 that there were at that time seventy-five school psychologists in the country. At that time he outlined the functions of a school psychologist as follows: (1) direction of all group testing within the school system; (2) diagnosis and therapeutics of problem cases, (*a*) the mentally retarded, (*b*) the superior child doing inferior work, (*c*) the child who has a special disability, (*d*) the child whose behavior does not meet the standards of the community; (3) analysis and disposal of problem cases; (4) bringing a unique point of view to bear upon educational problems; (5) conduct of research problems; (6) making contributions to the general theory and practice of education. The unjustified self-assurance of those who, in the early 1920's, equipped only with mental tests and experimental methods, thought they were destined not only to understand all the problems of individual pupils but also to carry *the* gospel of scientific finality to education is only now being fully appreciated. Psychologists have indeed made noteworthy contributions to the study of how individuals differ one from another in performance but have ignored almost entirely until the

[9] Hutt, R. B. W. "The School Psychologist." *Psychological Clinic,* 15: 48-51, March-April, 1923.

[10] Walter, R. "The Functions of a School Psychologist." *American Education,* 29: 167-170, December, 1925.

more recent personality testing movement the individual's inner struggles and conflicts.

Psychology and psychologists have made important contributions to the program of guidance in schools. But psychologists have never been independently aggressive in planning the organization by which they should serve in schools. Rather they have been content to act as called upon by child study departments and bureaus of educational research. School psychologists have worked more or less independently and without the advantage of an organization of their group. The Association of Consulting Psychologists has been singularly lacking in aggressiveness in suggesting the service that psychologists can render in schools. This has been due in part to the fact that psychologists have never really seen themselves as clinicians but rather as scientists and laboratory workers. Dissatisfaction with this limited conception of the services which psychologists might render has been voiced[11] and there is evidence that a wider conception of the function of clinical psychology is now taking place.[12, 13]

SOCIAL WORK

A fourth profession which has contributed to guidance in schools is *social work*. The contribution which social work could make to the guidance of school children was apparently realized almost simultaneously in New York and Boston. Hartley House and Greenwich

[11] Symonds, P. M. "The Province of Psychological Counseling." *Teachers College Record*, 37: 313-327, January, 1936.

[12] Louttit, C. M. *Clinical Psychology*. Harper & Brothers, 1936.

[13] In preparing this historical sketch of the services of psychology to guidance in schools I have been aided by:

Symonds, J. P. "Toward Unity." *Journal of Consulting Psychology*, 1: 23, 24, January-February, 1937.

Hildreth, G. M. *Psychological Service for School Problems*, Chap. 2. World Book Co., 1930.

Chapman, H. B. *Organized Research in Education with Special Reference to the Bureau of Educational Research*, Bureau of Educational Research Monograph No. 7, State University Press, Columbus, Ohio, 1927.

Wallin, J. E. W. "The New Clinical Psychology and the Psycho-Clinicist." *Journal of Educational Psychology*. 2: 121-132, 191-210, 1911.

Wylie, A. T. "A Brief History of Mental Tests." *Teachers College Record*, 23: 19-33, January, 1922.

Witmer, L. "Clinical Psychology." *The Psychological Clinic*, 1: 1-9, March, 1907.

Hollingworth, L. S. "Psychological Service for Public Schools." *Teachers College Record*, 34: 368-379, February, 1933.

Young, K. "The History of Mental Testing." *Pedagogical Seminary*, 31: 1-48, 1924.

House assigned two visitors to three school districts in New York City at their own expense in the fall of 1906. In January, 1907 the Public Education Association of New York City became interested in the movement and the Visiting Teacher Committee of the settlement houses became a Committee of the Public Education Association. For several years this work was supported entirely by private funds.

In November, 1907, the Women's Education Association of Boston established a home and school visitor in the Winthrop school, and in the same year the Boston Home and School Association placed visitors in schools in the North end and Roxbury districts.

Visiting teacher work was started in Hartford, Connecticut, in 1907 as part of the regular work of the school. The visiting teacher in Hartford was first called a "special teacher" who assisted the psychologist of the Psychological Clinic in Hartford in securing the history of children, and in carrying out the recommendations of the clinic in regard to social service, physical treatment, or school adjustment. Visiting teacher work was also started in Philadelphia in 1909 and in Worcester in 1910. Rochester began the work in 1913 by appointing a visiting teacher as part of the school staff; and visiting teacher work was made a part of the New York City school system in February, 1913 under the Department of Ungraded Classes.

In November, 1921 the Commonwealth Fund planned to include the work of visiting teachers in its Program for the Prevention of Delinquency, and thirty visiting teachers were placed in as many communities as part of a five-year demonstration. The use of the visiting teacher movement was the second item on the agenda of the Division on the Prevention of Delinquency of the Commonwealth Fund which read as follows: "2. To develop the work of the visiting teacher whereby the invaluable early contacts which our school systems make possible with every child may be utilized for the understanding and development of the child." This naturally stimulated interest in the work of the visiting teacher in many cities throughout the country.

Because of the nature of the work, the visiting teacher has often had close relationships on the one hand with *attendance officers* and on the other hand with *school nurses*.

The visiting teacher is trained as a social worker in one of the schools of social work and brings to her task the equipment, per-

spective, and skill of the social worker. In addition a visiting teacher is expected to know the problems of the school by having served at least one year as a teacher. In recent years social work has been developing new emphases, new procedures, and a new orientation toward its work. This changing emphasis was due in part to infiltration of ideas from the child guidance movement stimulated by psychoanalytic concepts, principles, and procedures emanating from Freud and others. This new point of view is briefly stated by Virginia P. Robinson as follows:[14]

> The second stage in which we are working in 1930 reveals a new development in the worker's growing acceptance of responsibility for the treatment relationship between herself and the client as the dynamic new experience in which therapeutic change may take place.

One gets the impression that social work is in a period of healthy growth with a very live and talented group who are busy experimenting in applying a new point of view in psychotherapy in actual practice.

It may be seen that the visiting teacher movement introduced into schools a new concept and movement in guidance. It does not have the authority and directness of the personnel administration movement. It does not have the scientific and research emphasis that characterizes the work of the psychologists. But it did bring with it psychological understanding and sympathy which were lacking in the other approaches. Visiting teacher service also carried with it the implication that the work of a child in school is conditioned in large part by parent-child relationships at home; and what is still more important it introduced the notion of understanding and caring for the "whole child," the child as an individual, rather than the child as a school pupil and a learner of subject matter. It has helped interpret the home and community to the school, and the school to home and community. In the recent past leaders in social work have explored the meaning and therapeutic value of the relationship between the problem child and an understanding adult.[15]

[14] Robinson, Virginia P. *A Changing Psychology in Social Case Work.* University of North Carolina Press, 1930.

[15] The development of the visiting teacher movement has been admirably summarized by J. J. Oppenheimer, *The Visiting Teacher Movement* (Public Education Association, 1924).

PSYCHIATRY AND CHILD GUIDANCE

A fifth profession—psychiatry[16]—has made its contribution to child guidance almost wholly outside the schools.

However, it has made perhaps the strongest potential contribution of any of the five movements to the guidance of children in schools. The very fact that it has done its work outside of schools indicates that it is destined to make a powerful contribution to guidance within the schools once its methods are understood and assimilated.

The child guidance movement had its inception in two events occurring in 1909 which were quite unrelated to each other. In that year Dr. William Healy founded the Chicago Juvenile Psychopathic Institute (since renamed the Institute for Juvenile Research) to serve as a clinic for the Chicago Juvenile Court. Dr. Healy brought his medical and psychiatric training and background to wrestle with the problems of delinquency and his intimate studies of delinquents led to such pioneer books as *Mental Conflicts and Misconduct* (Little, Brown, 1917) and *The Individual Delinquent* (Little, Brown, 1920). Dr. Healy with his assistant, Augusta Bronner, went to Boston in 1917 to direct the newly established clinic of the Judge Baker Foundation (now the Judge Baker Guidance Center). Both of these clinics have been pioneer enterprises in their field.

The other event in 1909 was the establishment of the National Committee for Mental Hygiene. This committee was the result of the efforts of Clifford W. Beers whose autobiography, *A Mind That Found Itself* (Doubleday, Doran, 1908), indicated the pressing need for a new humane attitude toward and treatment of the mentally disordered. Beers coined the happy phrase "mental hygiene" and through his energy carried through the organization of the National Committee. The National Committee through its surveys, brochures, and publicity work has been influential in quickening public interest in and forming sane public attitude toward the problems of personality adjustment and normal mental hygiene.

The war also contributed to the child guidance movement which

[16] A psychiatrist is a physician with the M.D. degree who has specialized in understanding and treatment of the mentally disordered. His understanding of the nature of mental disorder makes him also sensitive to the deviations from the normal in everyone. Psychiatrists have paid particular attention to the motivation of behavior and to behavior which is associated with emotion.

was soon to take shape by stimulating a demand for nurses and social workers who could co-operate with psychiatrists in their work with the mentally disordered. The term "psychiatric social worker" was first used in 1918. Psychiatric social work has been defined as:

> The kind of social case work that deals with cases of social maladjustment in which a mental factor or a behavior problem is of primary importance. All social case work has a psychological aspect, but psychiatric social work is concerned particularly with those in which the mental problems predominate and require attention by specially trained persons, and it is carried on in close association with psychiatrists—physicians who are specialists in mental disorders and in mental hygiene. Because of the many relationships between an individual's social situation and his mental concepts and between his mental life and his social behavior, a consideration of social factors is important in most mental difficulties, and the social worker brings to the psychiatric problem her special skill in evaluating social data and in effecting environmental adjustments.
>
> The psychiatric social worker is a social case-worker who has had systematic instruction in the psychological factors underlying behavior and in the principles of physical and mental disease and their social aspects, and training in dealing with psychiatric cases.[17]

The time was ripe in 1921 to bring these various lines together and utilize them in a constructive program of child guidance. It was in large part because the time was ripe, the methods had been given preliminary exploration, and the personnel was prepared that the Commonwealth Fund could set up its Division in the Prevention of Delinquency and carry through the five-year demonstration program already mentioned. The first item on the Commonwealth Fund plan's agenda reads:

> 1. To develop the psychiatric study of difficult, pre-delinquent, and delinquent children in the schools and the juvenile courts; and to develop sound methods of treatment based on such study.

The National Committee for Mental Hygiene was given responsibility for setting up those demonstration "child guidance clinics" as they were termed. Clinics were established in St. Louis, Norfolk, Dallas, Monmouth County, Minnesota, Los Angeles, Cleveland, and Philadelphia, and all except the Monmouth County experiment have settled down into permanent institutions. Scores of other clinics sim-

[17] *Vocational Aspects of Psychiatric Social Work*, pp. 15, 16. Prepared by a Committee of the American Association of Psychiatric Social Workers. June F. Lyday, chairman. Published by the Association, New York, 1926.

ilarly patterned have sprung up independently and 621 psychiatric clinics are listed in the most recent directory of psychiatric clinics in the United States. Some were established as adjuncts to the juvenile court, some as a community service, some as part of the public school system, some as traveling clinics for rural areas, some in connection with hospitals.

The National Committee for Mental Hygiene had a wide vision for its plan of a child guidance clinic and drew in various professional groups—psychiatrists, psychologists, and social workers—which had demonstrated that they had something to contribute. A typical child guidance clinic consists of: a full-time psychiatrist, a full-time psychologist, two or three full-time psychiatric social workers, and two or three clerks. To quote from Stevenson and Smith's *Child Guidance Clinics*:[18]

> Children are brought to the clinic because of unacceptable behavior—disobedience, stealing, lying, temper tantrums, truancy, and the like; because of personality problems such as nervousness, inattention, shyness; because of school difficulties—poor work, retardation, indifference, and so on; or because some crisis in the child's life—transfer from a broken home, for instance—makes it desirable to have a technical analysis of his capacities and qualities as a guide for constructive action. . . . Children are brought to the attention of the clinic chiefly on the initiative of social agencies, schools, courts, parents, and relatives. . . . When full service is indicative, the study of the child and his environment will usually bring into play all the professional resources of the clinic, the psychiatrist interviewing the child to gain insight into his emotional problems, the psychiatrist or pediatrician making a physical examination, the psychologist making selected tests of capacities and achievements, and the psychiatric social worker studying, usually through home and school as well as office contacts, the underlying social factors and the emotional interplay between the child and the adults or siblings chiefly important to him. The facts and inferences derived from these parallel studies are summarized in record form and are discussed at a staff conference. The thinking of the group, which frequently includes the school principal or social agency staff worker most interested, is precipitated in a plan for treatment.
>
> Treatment consists essentially of psychotherapy through the interview, for which the psychiatrist and the psychiatric social worker may share responsibility, and of environmental adjustments such as changes in school placement, the discovery and use of recreational opportunities, changes in physical regime, and the like. . . . Psychotherapy is by no means confined to the child, usually the more toxic factors in the situation are found in the adult environment, and progress may come about chiefly as the parents, in association with the psychiatrist

[18] The Commonwealth Fund, 1934, pp. 55-58.

or the psychiatric social worker, arrive at a clearer understanding of their own liabilities and develop ways of meeting them.

Although child guidance clinics are planned to study and treat the more serious types of problem children, it must be remembered that this was part of a program for *prevention* of delinquency. Actually the problems of human relationships, motivation, emotional control, and acquisition of good adjustment are the problems of every child. The methods and points of view of the child guidance clinics are important for all education which concerns the development of personality.[19]

CHILD DEVELOPMENT AND PARENT EDUCATION

Space does not permit an extended discussion of the contribution of nurses and school physicians, on the one hand, to the guidance program of schools, nor of the child development and parent education movement on the other. The child development movement was stimulated by the exceedingly liberal grants of the Laura Spelman Rockefeller Memorial, a program which was formulated in 1922 and reached its zenith around 1926 and 1927. The final report of the Memorial (1933) states:

> The general ideas upon which the program was founded are simple and practical: (1) the welfare of children is the task of those who are directly responsible for their care, namely, parents and teachers; (2) the management of the child in the home and the school suffers not only from ignorance respecting child care but also from a lack of understanding of personality and its development; (3) a practical way of furthering the welfare of children is through a program of research and of education of parents and teachers, directed specifically toward replacing undesirable practices of the home and school and communicating insight into the parent-child relationships. . . .
>
> To carry out such a program there was need of four main activities: (1) research on the growth and development of children, to provide more dependable knowledge of the child and his nurture; (2) the preparation of books, pamphlets, study outlines, and other practical aids to help parents of diverse educational backgrounds in solving their problems and gaining an understanding of their children; (3) training men and women for work in this field, as teachers, child

[19] George S. Stevenson and Geddes Smith's *Child Guidance Clinics* (New York: The Commonwealth Fund, 1934) is a source book of understanding of the development of the child guidance movement. Lee and Kenworthy's book, *Mental Hygiene and Social Work* (The Commonwealth Fund, 1931), deals especially with the contribution of the Bureau of Child Guidance in New York City and the New York School of Social Work. Louise C. Odencrantz's *The Social Worker* (Harper & Brothers, 1929) provides a very good orientation to the work and training of the psychiatric social worker.

study leaders, administrators, and investigators; (4) experimentation and exploration in the education of parents under different auspices and conditions, to discover how parent education might be conducted.

This work was set up in certain major centers including: the Child Development Institute of Teachers College, Columbia University, Helen Thompson Woolley, director, succeeded by Lois Hayden Meek; Iowa Child Welfare Research Station of the University of Iowa, Bird T. Baldwin, director, succeeded by George D. Stoddard; and Institute of Child Welfare of the University of Minnesota, John E. Anderson, director. Besides these main projects a number of other centers have been established where effective work has been done, including the Clinic of Child Development of Yale University and the Institute of Child Welfare of the University of California. It will be noted that the emphasis in these enterprises has been on research rather than on service. The support of these institutes was passed over to the Rockefeller Foundation on the dissolution of the Laura Spelman Memorial and was then gradually withdrawn. The movement of child study and parent education which received this generous stimulation still carries on. The Social Science Research Council through its Committee on Child Development has been interested in the stimulation of child study, has granted fellowships for this purpose, and has maintained the Child Development Abstracts. No well-defined professional group paralleled this movement, most of the personnel being drawn from those trained in psychology or education. Recently (1935) through the stimulation of the Social Science Research Council there was formed the Society for Research in Child Development. This promises to be the nucleus of a group which is interested in the problems of child development principally from the standpoint of research.

It will be seen that the child development and parent education movement has stressed primarily research. Its contributions to practice through the nursery schools which were established as laboratories of research have been with young children. By emphasizing correct methods of managing young children it provides a basis for positive child guidance which may well be infused in the elementary and secondary schools; and its emphasis on parent education provides hints as to methods by which more effective parent-teacher relations can be achieved in public schools.

Six lines of professional development (Personnel Administration, Vocational Guidance, Psychology, Social Work, Psychiatry, and Research in Child Development) since the opening of the twentieth century have been reviewed, each of which has a contribution to make to the work of guidance in the public schools. To put it differently the public schools can and should draw on the contributions of these six lines of professional development to form an integrated program of guidance which shall be in the interests of increased effectiveness in the education of children. Four of these developments have had generous subsidies from private foundations. In the writer's opinion no greater contribution to public education in this country could be made at the present time than by putting into practice a program of guidance in the public schools which integrates these lines of development. Such a project might very well be undertaken by some such organization as the National Education Association, the Progressive Education Association, or the American Council on Education, to be backed by generous grants by a foundation, perhaps exceeding in amount anything that has been granted to any of these separate enterprises. Materials, techniques, and points of view are available which would have a profoundly beneficial and stimulating effect on all education.

In the next few pages I should like to point out what seem to me to be some of the features that such an integrated program of guidance would have. Let us consider an imaginary situation. Mr. Arthur Armitage is principal of Consolidated School No. 3 in Vinton, Illiana, serving the west end of Black County. Mr. Armitage's school, consolidated in 1930 from seven small one-, two-, and three-room rural schools and the village school of Vinton, has 425 pupils and 15 teachers, and covers grades one to twelve. This school had never "done any work in" guidance, but Mr. Armitage attended the sessions of the Vocational Guidance Association and heard some papers on mental hygiene in education at the recent meetings of the Department of Superintendence of the N.E.A. in New Orleans. Mr. Armitage has also just finished reading this article in the *Teachers College Record* and is convinced that Consolidated School No. 3 must do something about guidance, but what? He has pride in his teaching staff but not one of them has had any specialized training along

the lines suggested in the papers he heard at the meetings. He might call on the State Department of Mental Hygiene of Illiana for service from their traveling mental hygiene clinic to study some of the pupils in his school who have given his staff special concern, but the clinic comes around only once a month and he feels that he would like to have guidance penetrate his school more completely. To think of setting up a child guidance clinic in his school or community is out of the question—the staff of psychiatrists, psychologists, psychiatric social workers, and clerks could be afforded only by a large-sized city. Mr. Armitage believes he could persuade his board and the county superintendent to let him have on his staff one person specially trained in guidance provided this person did not demand a salary that was too far out of line with the salaries of his teachers, or which might even equal his own. But Mr. Armitage has a broad point of view and is dissatisfied with the services which any guidance specialist might offer. His school is hardly large enough to employ an administrative assistant in charge of pupil personnel and, as a matter of fact, for a school of this size he feels that that is his job. Besides, any administrative assistant whom he might add to his staff, while he could take charge of the extensive social and cultural programs which had been started, would probably not be equipped technically to study pupils who showed maladjustment in its various forms. He hesitates to consider a psychologist because he recognizes that many of his pupils have emotional problems and psychologists in general have not had training which gives them insight into problems of emotional maladjustment. On the other hand he feels that the services of a visiting teacher would be one-sided, too, for many of his children have difficulties in reading and speech or are probably mentally dull problems which only a psychologist is equipped to study and plan for.

After giving some thought to the matter he decided that the person he wanted should have the qualifications of both the psychiatric social worker and the psychologist. He believed that he could get along very well with his constructive social program by urging his teachers to attend summer school and take courses in the work of the homeroom, extracurricular activities, occupations, personal hygiene, mental hygiene, child development, adolescence, and the like. He had in mind one teacher in particular whom he would encourage

to specialize in work in pupil personnel administration at the state university. This teacher was exceptionally stable, liked children, and had shown considerable flair for organizing dramatics, hobby clubs, special assembly programs, and the like. Children liked to come in and talk to her. But when he came to look for the person whom he could employ as the specialist he experienced great difficulty in finding someone with the combination of training as visiting teacher and psychologist. He could get visiting teachers well trained in a school of social work, and psychologists trained in the state university, but no institution had had the vision to combine the training and so provide schools with a specialist who could give them the maximum specialized assistance.

To turn a moment from the problems of Mr. Armitage, it would seem as though the integration of school guidance activities can best be accomplished by the training of guidance specialists (they may well be called guidance counselors) who combine in their preparation psychiatry, social work, and psychology. A person with such training would immediately become an important and significant addition to a school staff. Such a person should have personal qualities of emotional stability and friendliness and ability to get along well with others without taking an aggressive attitude toward his colleagues, or pupils, or showing submissive or patronizing attitudes. Such a person would be expected to make special studies of maladjusted children, but at the same time he ought not to work in a vacuum and his office might soon become a combination playroom, workshop, and reading room where children would be free to come at certain hours and where they would feel at home. On the other hand the guidance counselor should have a mimimum of authority either as teacher or as administrator. Such a guidance counselor could easily make contacts with the parents and would soon be respected as one who is understanding and helpful concerning the problems which parents face. Most important of all, the guidance counselor would establish friendly relations with the other teachers in the school, and would interpret to them the difficulties of the children without assuming an officious air of one who is proffering unasked for and unwelcome advice. Through the services of such a guidance counselor not only could the adjustment problems of children be lessened, but teachers would approach their tasks with greater understanding, and

personal relationships within many homes in the county would be measurably improved. There is good reason to believe that the incidence of delinquency of pupils coming up through a school with the services of such a guidance counselor would be measurably lessened.

One may very well raise eyebrows at the possibility of training persons to do the combined work of the psychiatrist, psychologist, and visiting teacher, and do it inexpensively enough and in numbers large enough to serve the public schools of the country. Actually, however, it has never been tried. Giving prospective teachers training in mental hygiene in the normal schools of the country is practically unknown today. Many normal schools give work in mental hygiene, either as separate courses or as parts of courses in educational psychology or personal hygiene, but the work is bookish and academic. Thoroughgoing integration of "mental hygiene" in the curricula of a normal school is practically unknown.[20] Dr. Zachry's successful experiments at Montclair show what can be done. There has yet to be a beginning of selecting for prospective teachers young men and women who have shown in their own personal adjustments that they are able to *accept*, *understand*, and *help* the children who might be placed in their charge, or who can tolerate the aggression of children that is to be the lot of every teacher. There has yet to be a beginning of training prospective teachers to understand the needs of children and to meet these needs with insight and, if emotionally, with an understanding of what one's own emotions are doing to the children. The subsidizing of a far-reaching program of teacher training based on mental hygiene principles should be the next big project to be undertaken by a large foundation.

On such a basis of preliminary training in normal school or college much could be accomplished in the training of specialists on the graduate level. It is certainly out of the question to think of training specialists in one year who would be a combination of psychologist, psychiatrist, and social worker when psychiatrists take the position that five years of training and experience beyond medical school are needed before a fully qualified psychiatrist is achieved. But some insight can be achieved by one year's graduate study, and it is possible to send forth a person who, while perhaps not a specialist in

[20] Elkind, H. B. "A Mental-Hygiene Survey of the State Teachers Colleges of Massachusetts." *Mental Hygiene*, 19: 619-634, 1935.

the full sense of the word, nevertheless could render helpful service to schools like Consolidated No. 3 and who could profit greatly by this experience. Actually the principles of effective individual analysis, diagnosis, and psychotherapy are now becoming so clearly formulated that they can be organized for effective graduate study. Our experience at Teachers College in the training of psychological counselors convinces us that with three years of graduate work followed by an internship under supervision, our students are equipped in psychiatry, psychology, and psychiatric social work as well as the best practitioners in these fields, with the understanding, of course, that the training is limited to psychology and education and includes nothing relating to medicine or medical practice. This may seem to be an extreme statement, but the same thing is happening in this field that has always happened in education; what has seemed intangible, esoteric, and the property of only a few becomes the property of much larger numbers in the next generation through the organization and spread of knowledge.

Let us now return to Mr. Armitage and suppose that we look ahead and see him several years later. He has found his specialist and has established his guidance plan. It is successful from the start. Mr. Armitage reports it, first in meetings of his local state teachers association, later at the very meetings of the N. E. A. where he first received his inspiration. He had also written a statement of his work in the journal of the state teachers association. His school begins to attract attention and visitors start making pilgrimages to Consolidated School No. 3 of Black County, Illiana. Then, as so often happens, Mr. Armitage is offered the position as superintendent of schools in Mackinac City with a population of 40,000. The salary increase offered him cannot be resisted and he accepts. Now he must begin anew, for here conditions are quite different. With his seven elementary schools, three junior high schools, and high school of 1,800 he is faced with many unsolved problems. First he decides, as he decided in Consolidated No. 3, that his teachers must become guidance minded. He institutes lecture courses in mental hygiene and encourages study at summer school. In his second year he persuades the state university to hold an institute for his teachers on the week preceding the opening of school. But the results do not prove wholly satisfactory. Teaching methods are still about the same; new

devices like the homeroom program are carried out in a most routine fashion, lacking the fire of inspiration, as a partly understood order to be obeyed,[21] and Mr. Armitage decides that to be really effective (at least within a short time) one must start this training early, probably in normal school itself. Mr. Armitage decides that his principals shall be the chief guidance officers in his system, but here, too, there seemed to be lack of understanding and after the initial enthusiasm passed the schools carried on much as before. So he again has to resort to specialists. Here his insight leads him to see the need for two different kinds of specialists—personnel officers who would have charge of the program of positive guidance including the direction of student affairs, handling of discipline, attendance and records; and the guidance counselor who would be a combination psychiatrist, psychologist, and psychiatric social worker to study, plan remedial programs and carry on psychotherapy of maladjusted pupils, and work closely in an advisory capacity with teachers and parents.

Of the first type—the personnel officers—Mr. Armitage persuaded the high school principal that he needed a dean and they selected a woman for this position with the expectation that as the school grew in a few years they would also employ a man who would become an assistant principal and dean of men, and then the original dean would become dean of girls. This dean immediately proceeded to select three outstanding teachers to become "guides" of the three classes, and homeroom periods, student organizations, and clubs were stimulated and organized. Classes in occupations were also part of the program. Each of the junior high schools was given "advisers" who had similar duties to perform.

Mr. Armitage was undecided how to use the guidance counselors —specialists in psychiatry and psychology—to best advantage. There were two possible plans of organization. One was to have the ten

[21] Mr. Armitage at first believed this was due to a defect in the personality of his teachers and to their training as teachers. He has now more recently come to believe that this difficulty is due to the educational system itself—a system primarily concerned with academic achievement and credits. A teacher is really measured by the ability of her pupils to pass creditably from one grade to another. Attention to the personality development of children is therefore interesting but non-essential—a fad and frill in education. He is convinced that his schools must achieve a wholly new objective if he is ever to get teachers who will take mental hygiene, guidance, and personality development seriously.

guidance counselors which he was planning to employ assigned to each of the individual schools in his system (two small schools would have to have one specialist). He knew that there were certain advantages in this plan because he had found in Consolidated School No. 3 that his guidance counselor had been able over a period of several years to become very well acquainted with all the children in the school, the teachers, and a number of the homes. On the other hand there were some who pointed out to him that with ten specialists in guidance he could secure a higher degree of competence and specialization if he employed some fully trained psychologists, some visiting teachers trained in social work and psychiatry, and the part-time services of a psychiatrist. These persons might have their headquarters in some unused rooms in his own building at present assigned to the city engineer's office. In fact, he thought of the possibility of making this group of specialists into a clinic and dreamed of the conferences that could be organized to discuss certain cases, bringing in teachers and principals who could profit. However, the educational function overweighed the scientific function in his mind and he favored locating each worker in a school. Not knowing which was best he decided to experiment assigning some to schools and some to the central office.

When Mr. Armitage came to Mackinac he found that he had inherited a well-planned health and physical education department with two physicians on a part-time basis and four school nurses, besides physical education teachers both in the junior and in the senior high schools. He planned immediately to integrate these persons into his projected guidance program. The school nurses, while they had not had training in mental hygiene, adapted themselves quickly to the new emphasis on the individual pupil. Mr. Armitage utilized some of the physicians' time in having more careful medical examinations made of the pupils who were being given intensive individual study by the guidance counselors so that the clinical picture would include a record of the physical as well as the psychological.

At last reports Mr. Armitage had been having new difficulty. All went well until he appointed some of his guidance counselors and they began to make home visits. Then he discovered what he should have learned much earlier, namely, that some of these same children who were problems in school were already being studied and worked with

by social workers from the local family service agency. This agency, supported by an annual drive for a community chest, took care of the neediest poverty cases in the city and worked with families which were broken or disorganized. Mr. Armitage discovered that part of the difficulty was intense professional jealousy. His own guidance counselors, for the most part, had received their training in a school of education, while the social workers for the family agency had received their training in a school for social work. There they had been taught that they belonged to the medical profession and, indeed, looked to the medical profession as their mentors in any difficulty. Mr. Armitage realized that professional jealousy was quite out of keeping with persons who were themselves interested in seeing that others made better adjustments. In the interests of harmony and co-operation he instituted a community council of child guidance, bringing in a number of civic and philanthropic leaders and representatives of the police, courts, Boy Scouts, Y.M.C.A. and Y.W.C.A., the family service agency, and the schools. The response was immediate and gratifying. Many of the citizens showed a keen interest in this council. Indeed Mr. Armitage sensed that the very most respected citizens—factory owners—who lived in the finest houses and whose bountiful annual income was somehow contrasted with the abject poverty of the very ones whom the council proposed to help, were the people who showed the greatest interest. At last reports Mr. Armitage was attempting to work out some common understanding and working agreement between his guidance counselors and the social workers in the family agency.

The foregoing story points out some of the possibilities and some of the problems of an integrated plan of guidance in the public schools. When one looks over the historical development of the several lines of guidance work which in recent years have been converging toward a common program to work on similar problems it may be seen how ripe the time is for an integration of these efforts. Some large cities like Oakland and Pasadena, California; Tulsa, Oklahoma; Providence, Rhode Island; and Rochester, New York, have given considerable attention to an integrated guidance program, but usually with an emphasis in some one direction or another.[22] Most

[22] A good discussion of the organization of guidance in schools may be found in the Tenth Yearbook of the Department of Superintendence on *Character Education*, Chapter

of these large cities have employed specialists with a high degree of specialization. Now the time has come to train the specialist who is a generalist in guidance. To reiterate what was stated earlier in this paper: a major contribution to education can now be made by some association, backed by generous contributions from a foundation, which can demonstrate the possibilities of integrated guidance programs in towns and cities of small or average size, and which undertakes to incorporate training in guidance, personnel, adjustment, and mental hygiene in the normal schools and teacher training institutions of the country.

X, "How Individual Counseling May Contribute to Character Education." The organization of guidance in Oakland is described by C. E. Rugh and Marion Brown in "Principles of Guidance in the University High School," *University High School Journal*, 13: 196, 197, Dec., 1934, and Brown, M., "Techniques Used in Guidance at University High School," *University High School Journal*, 14: 23-44, June, 1935. Richard Allen describes the plan for guidance in the public schools of Providence, R. I., in his book, *Organization and Supervision of Guidance in Public Education* (Inor Publishing Company, 1934).

New Studies in Education

THE BASIS FOR CONSTRUCTING CURRICULAR MATERIALS IN ADULT EDUCATION FOR CAROLINA COTTON MILL WORKERS*

THIS study has initiated a county-wide program of adult education and community improvement in Greenville, South Carolina. It outlines the adult education phase of a plan that is being carried out in a typical Southern county in the industrial and agricultural South. The adult education plan suggested by this dissertation is part of a larger program which is sponsored by the various agencies and organizations of Greenville and is being supported by the General Education Board in co-operation with Furman University.

Briefly, the study represents an attempt to discover the areas of weakness in the lives of Carolina cotton mill workers and to suggest a technique for introducing into a mill village a program designed to remedy the deficiencies.

In gathering data for the study, every known and available book, research study, magazine article, and newspaper sketch on the workers of Carolina mills was consulted. Additional material was secured by sending out two questionnaires, one designed to discover the extra-mill activities of the management and the other planned to get the reaction of a number of experts holding various political and economic beliefs to controversial issues regarding the mill people and their life. Conversations and interviews with many mill managers and owners, public officials, and some mill workers were additional sources of information. Extensive travel over the entire cotton mill belt of the Carolinas has given the writer an acquaintance with the territory under consideration. He also obtained a realistic view of the situation by working four summers in various departments of a typical South Carolina cotton mill.

The first chapter of the study gives a brief history of manufacturing in the Carolinas; the second, third, and fourth chapters give a summary picture of the Carolina mill worker, the mill village, and the owners and their mills. Standards for judging the inadequacies in the lives of the mill operatives have been drawn from the writings of Southerners who have a regional, as opposed to a sectional, point of view. Specific items from these writings have been organized into a social and political philosophy which comprises the fifth chapter of the study. By comparing these standards with the described conditions in the villages, the

* By RALPH M. LYON, Ph.D. Teachers College, Columbia University, Contributions to Education, No. 678.

areas of weakness or shortage have been obtained. The study is based upon the assumption that a program of adult education must consider these discovered weaknesses if it is to be realistic. The final chapter suggests a plan for initiating a program of adult education in a cotton mill village. This plan served as the basis upon which the Greenville County Council for Community Development projected its five-year program of county-wide improvement.

APPROXIMATE COMPUTATION*

ONE of the most neglected topics in the mathematics curriculum of the elementary and secondary schools of this country is approximate computation. Although from time to time recommendations have been made to include it in the elementary and secondary school curricula in mathematics, and although the importance of the notion of "measurement" as a pivotal principle in the study of mathematics has long been recognized by mathematicians as well as by educators, up to the present time little progress has been effected in attempts to make approximate computation a part of the mathematics course in the schools.

The exactness of mathematics has been considered one of its conspicuous virtues. The certainty of the results of elementary mathematical computation sets this subject apart from any of the following: (1) the natural sciences with their empirical estimates and inductive generalizations; (2) jurisprudence and theology with their bases in authority, human and divine; (3) economic, meteorological, or political forecasting with their dependence upon personal judgment; (4) history with its fabric interwoven with the strand of time. Mathematics is universal as to time, place, race, and application. Thus when computation far outstrips possible direct measurement, as when the decimal expansion of *Pi* is correctly computed to hundreds of significant digits, one must retain confidence in this achievement of the human spirit or else doubt the validity of all rational processes.

Although a teacher may sometimes slight the spiritual claims of mathematical development while laboring to impress the pupils' minds with the essentials of operational technique, he cannot, even in the midst of drill and the routine of explanation, wholly lose sight of the logical certainty inherent in correct deduction. However, as experience has shown, the subject of approximate computation may remain wholly unmentioned, and the pupil, who, as he grows older will find the use of approximations increasingly necessary, may be equipped with only a rudimentary notion of the mathematical relations among measured quantities.

Two types of quantities find place in mathematics rather early in the elementary stages of the subject. These two types always go together, constantly entering more vividly into the experience of the student of mathematics. One type is abstract, physically nonexistent, elusive, but steadily growing in importance in

* The Twelfth Yearbook of the National Council of Teachers of Mathematics. By AARON BAKST, Ph.D. Bureau of Publications, Teachers College, Columbia University.

every branch of mathematics. The other is real, a product of practical experience, a thing "one can lay one's hands on," so to speak. One type is existent as an abstraction only, and the other represents quantities that tend to represent these abstractions. One type embraces everything that is exact, and the other contains the prototypes of these exact quantities.

In practical mathematics, that is, in that branch of mathematics in which numerical processes with quantities of these two types arise, the method of obtaining satisfactory numerical results from the operations with these quantities must be considered. "Satisfactory results" may not mean satisfactory to the practical mathematician from his individual point of view. The personal element should never find a place in any mathematical process. Satisfactory results imply that there must be some means and methods by which numerical processes can be applied to quantities of the two types referred to, and results obtained consistent with the nature of the quantities.

In the actual experience of the practical mathematician the quantities of the second type are the predominant ones. Even though "exact" quantities are always present, the actual numerical process takes place with another quantity which *approximates* it to some extent.

Thus we have two classes of quantities: exact quantities and approximate quantities. In actual experience the approximate quantity usually comes first. It is only in the stage of abstraction that the exact quantity, the approximation of which is known, is considered. This method of development is followed in this work in the process of the analysis of the relationship between exact and approximate numbers.

Colleges, universities, and teacher training institutions have not provided courses which would prepare prospective teachers to teach approximate computation and allied topics in the schools. Elementary mathematics textbook writers have done nothing constructive with it. A study of eighty-eight textbooks in algebra and thirty-four in trigonometry published in this country in the period from 1923 to 1932 showed that in only two algebras and one trigonometry were any attempts made to deal with this subject.

To put order, so to speak, into this branch of applied mathematics, a study of the Theory of Numerical Processes was made. This study, as presented in this volume, is confined to the arithmetic of approximate computation and to the analysis of those transcendental functions that are a part of an elementary course in mathematics. In order to arrive at some comprehensive and workable results, the study was further limited to the analysis in terms of significant digits. An exhaustive development of the arithmetic of approximate computation is presented in this volume. Optimum and predetermined approximativeness are dealt with thoroughly. It was necessary for the author to begin with certain fundamental assumptions which were found afterwards to be consistent. The principal assumption, which is not only novel but also very important, is that a numerical representation of a measurement, that is, an approximate number, is a tolerably rational representation of an irrational number, and, therefore, approximate numbers possess all the properties of irrational numbers.

The numerical processes analyzed in the study were: addition, subtraction, multiplication, division, raising to a

power, extraction of roots. Other topics treated were: formulas, solution of equations, logarithmic and trigonometric functions. A chapter is devoted to the history of approximate computation.

In order to make this study of practical value for teacher training purposes as well as for classroom use by mathematics teachers, a part of the volume is devoted to a detailed discussion of the teaching of approximate computation. Approximate computation is introduced on the level of ninth grade algebra through a detailed presentation of "measurement" which would lead up to the development of the nature of approximate numbers. Then elementary but workable rules for numerical operations are developed. For each phase of presentation illustrations are given, and every topic is methodologically analyzed. The levels covered in this part of the volume embrace the mathematics curriculum of a four-year high school.

PUBLIC SCHOOL TAX MANAGEMENT IN TEXAS*

THE aim of this study is to discover if it is better for schools to have their taxes assessed and collected by their own assessor and collector or to have them assessed and collected by the municipal authorities. It compares, by means of fifty-two case studies of selected systems, the above methods with reference to delinquency, adjustment of the tax income period to the school expenditure period, the cost of tax collection, the control over taxation for capital outlay, the gaining immediate control of tax money and safeguarding it, and the financial support of the schools under different organizations for the assessment and collection of taxes.

The state of Texas was chosen as a basis for the research because it has a multiple system of taxation for school purposes and thus lent itself to a comparative study better than school systems in different states inasmuch as such educational and financial factors as were provided by state laws remained constant.

Case studies were made of the tax management in the fifty-two selected systems during the five-year period from 1929 to 1934. The systems were selected to form two comparable groups of twenty-four systems each, one group which collected its taxes with a separate school collector, the other group which collected its taxes with the municipal tax collector. As the four largest systems in the state employed one type of organization, they were used in the case studies but not included in the comparative study because it was impossible to match them. The remaining forty-eight systems were equated on the basis of total assessed valuations. To obtain the necessary data all of the fifty-two systems were visited during the summer of 1934, the end of the five-year period of the sudy.

FINDINGS AND CONCLUSIONS

The percentage of delinquent school taxes in the fifty-two systems increased from 12.08% in 1929 to 26.78% in 1934.

* By EUGENE G. WILKINS, Ph.D. Teachers College, Columbia University, Contributions to Education, No. 703.

Delinquency has increased at a faster pace in the schools employing a separate school tax department, and in 1934 had reached a greater percentage than in the school systems employing the municipal tax department.

By using a separate school tax department it might be possible to adjust the tax income period to the school expenditure period, thus reducing the amount of short term borrowing and carrying of interim reserves. The results of the study show, though, that there is a lag in each group of over four months between the beginning of the schools' major expenditures and the receipt of taxes, with the lag actually smaller by 0.6 of a month in the group using the municipal tax department.

It costs 2.81% of the current tax to assess and collect school taxes in systems employing the municipal tax department, compared with 3.92% in school systems employing a separate school tax department.

The case studies show that the undesirable control which the municipal government in many cases extended over the school finances when it managed the school taxation has caused the schools to maintain separate tax departments. The case studies also show that if a clear demarcation of the rights and duties of the schools and municipal government is made the control will be avoided.

No difference is evident between the two groups in the degree to which safeguards of school funds are established.

More wealth per scholastic is made available for taxation through the use of a separate school tax department by (*a*) extension of the school district, (*b*) employment of a higher percentage of true value of property for the school assessment, and (*c*) establishment of a separate school district to include only wealthy property and few scholastics.

The superiority of the group of school systems employing the municipal tax department is evidenced by a lower percentage of delinquency, a better adjustment of the tax income period, and lower costs of collection. From the satisfactory arrangements under which some of the schools employing the municipal tax departments have removed any chance for extension of control by the municipal government over school finances, the item of control can be eliminated. Special provisions allowing the municipal tax department to handle the school collections outside the city limits show that the difference in the amount of money made available can also be removed, while the distinct advantages mentioned above are maintained. Therefore, the method of employing the municipal tax department is recommended, provided that means are taken to have the city tax department collect taxes on property outside the city limits; also provided that the schools have a contractual agreement with the municipal authorities that the schools pay their share of the costs of the tax department and in return receive their share of the penalty and interest charges.

College & Alumni Notes

Board of Trustees of Teachers College

Following are notes of the meeting of the Board of Trustees of Teachers College on Thursday, April 8, 1937.

The following deaths were reported:

Miss Emily Ann Barnes, Teacher of Grade VI, Lincoln School, on March 9, 1937

Miss Florence Inghram, Assistant in the Reference Department of the Teachers College Library, on April 7, 1937

The resignation of Josephine H. Kenyon, M.D., Associate in Health Education, and a member of the staff since 1909, was reported, effective July 1, 1937.

The following leaves of absence were reported:

Spring Session, 1936-37, Professor E. L. Thorndike, Professor J. R. McGaughy, and Miss Christine Heinig*

Academic year, 1937-38, Professor John R. Clark* and Professor Josephine L. Rathbone*

Winter Session, 1937-38, Professor I. L. Kandel and Professor A. T. Jersild

Spring Session, 1937-38, Professor Donald P. Cottrell, Professor A. L. Cru, Professor W. S. Elsbree, Professor Lillian A. Hudson, Professor Grace MacLeod, and Professor W. D. Reeve

Frederick H. Bair, Superintendent of Schools, Bronxville, N. Y., was elected to succeed himself as Alumni Trustee for the ensuing biennium.

Under the provisions for the retirement of officers of administration and instruction of Teachers College established on November 14, 1929, the following appointments to the rank of Emeritus Professor of Education were made:

William Heard Kilpatrick, Ph.D., LL.D., Litt.D., Professor of Education, effective July 1, 1938, absent on leave during academic year 1937-38

Milo B. Hillegas, Ph.D., LL.D., Professor of Education, effective July 1, 1937

The following retirements from active service were reported:

M. Alice Asserson, M.D., Assistant University Physician, effective July 1, 1937

George M. Bruce, A.M., Assistant Principal of the Horace Mann School for Boys, effective July 1, 1938—with leave of absence during academic year 1937-38

The following appointments were formally approved by the Board, effective July 1, 1937:

Merle E. Curti, Ph.D., Professor of History at Smith College, as Professor of History

Hollis L. Caswell, Ph.D., Professor of Education at George Peabody College for Teachers, as Professor of Education

Will French, Ph.D., Superintendent of Schools, Long Beach, California, as Professor of Education

Karl W. Bigelow, Ph.D., formerly Professor of Economics, and Director of Tutorial Instruction at the University of Buffalo, and at present Visiting Professor of Education at Columbia University, as Professor of Education

George T. Renner, Jr., Ph.D., formerly Senior Economist of the National Resources Committee, and at present Visiting Associate Professor of Education, Columbia University, as Associate Professor of Geography

* Not sabbatical.

Hamden Landon Forkner, A.M., Principal of the Merritt Business College, Oakland, California, as Associate Professor of Education

Robert Chester Challman, Ph.D., formerly Instructor in Psychology at Ohio State University, and at present Fellow in the Advanced School of Education, Teachers College, as Assistant Professor of Education

Professorial promotions authorized by the Board since its last meeting and already announced were formally approved.

The following promotions were also approved:

Agnes Burke, from Instructor in Nursery School and Kindergarten-First Grade Education to Associate in Nursery School and Kindergarten-First Grade Education

Sara L. Patrick, from Instructor in Industrial Arts to Associate in Industrial Arts

E. Mae Raymond, from Instructor in Nursery School and Kindergarten-First Grade Education to Associate in Nursery School and Kindergarten-First Grade Education

Alice W. Spieseke, from Instructor in History to Associate in History

The administrative title of Lester Dix was changed from "Associate Director of the Lincoln School" to "Principal of the Lincoln School."

The Trustees acknowledged a gift of $2,500 from the Carnegie Corporation for the support of a study of young workers in the metropolitan area under the direction of Professor E. L. Thorndike, and $2,500 for the support of a study of life earnings in various occupations, under the direction of Professor H. F. Clark; of $16,404.66 from Mr. D. K. Weiskopf and $5,068.69 from Mrs. Carl H. Pforzheimer for the Building Fund of the Horace Mann School for Boys; of $10,249.88 from Mr. Dunlevy Milbank for the Student Loan and General Fund; of $1,000 from Mr. Cleveland E. Dodge for the Student Loan Fund.

Two lectureships, one in honor of Grace Dodge, to be known as the Grace Dodge Lectureship, and one in honor of V. Everit Macy, to be known as the V. Everit Macy Lectureship, were established, to provide a series of lectures in 1937-38 on the Grace Dodge Lectureship and in 1938-39 on the V. Everit Macy Lectureship, and each to be continued in alternating years. James Earl Russell, Dean Emeritus, was appointed to give the series of lectures on the Grace Dodge Lectureship in 1937-38 and William Heard Kilpatrick, Professor of Education, on the V. Everit Macy Lectureship in 1938-39.

The Dean presented a petition signed by 7,124 persons requesting that Professor Kilpatrick be continued "beyond the usual age of retirement." After discussion the Board of Trustees concluded that the welfare of Teachers College in the long run necessitates adherence to a considered retirement plan, even in the case of so distinguished a professor. The statutory provisions adopted on November 14, 1929, and the covering letter sent by the Dean stipulated retirement at sixty-five. To this policy only two exceptions were made, these being caused by financial considerations in the stress of the depression.

The Hartford School Survey

On the completion of the survey of the Hartford, Conn., schools by the Division of Field Studies, Institute of Educational Research, Teachers College, and the presentation of the report to the public by members of the survey staff, *The Hartford Courant* carried an editorial concerning the report and the work of the survey staff.* *The Hartford Courant* and *The Hartford Times* supported the school survey vigorously and assisted significantly in presenting the survey findings to the public. The editorial read in part:

* This report is being published for the Survey Staff by the Bureau of Publications of Teachers College.

The survey of the Hartford public schools just completed under the competent direction of Dr. George D. Strayer and Dr. N. L. Engelhardt of Teachers College, Columbia University, gives the city for the first time a complete picture of its educational plant and what needs to be done for its improvement. For months, thirty-six members of the college staff and sixty-five field workers have subjected our schools to the closest scrutiny, both with respect to their physical condition and methods. To ascertain as accurately as possible the facts and to present them without bias was the purpose of this inquiry, and the report affords convincing evidence that Dr. Strayer and his associates have successfully accomplished a truly prodigious task. The abstract alone consists of 404 typewritten pages, charts, tables and graphs; the full report makes an unabridged dictionary seem almost of insignificant size. Here at long last is a source of authoritative information to which one may confidently turn for the answer to practically every question pertaining to the largest single expenditure that local government makes.

The problem that confronted Dr. Strayer, Dr. Engelhardt and their investigators presented an extraordinary number of difficulties and perplexities. It was not as if Hartford had long been operating under a consolidated school system which those administering it desired to perfect, for only recently has this city emerged from an archaic district system, some of whose faults of necessity were carried into the new structure. Nowhere more than with respect to school buildings were the deficiencies of the district system clearly revealed to the examiners. In many instances the expanding needs of a school district were met by adding from time to time to the original schoolhouse, until it had become a sprawling and more or less unrelated conformation, ill-adapted to classroom purposes and a constant invitation to the hazards of fire.

It is not pleasant to reflect that some of the school buildings in this insurance-minded city present risks unexampled elsewhere. The prompt correction of this situation is imperatively demanded. It is estimated that it will cost more than eight million dollars in the next few years to replace obsolete and perilous buildings, make others safe, and provide needed additional facilities. This is the price of adhering to the district system long after other cities had discarded it.

But if a full realization of the hazardous nature and the inadequacy of Hartford's school plant is startlingly set forth in the Strayer report, no less critical, and justly so, is that part of the report which deals with the affairs of the Board of Education. That is not a matter that involves the expenditure of money. It involves only the determination of the electorate to see that no person is nominated to the Board of Education who does not fully measure up to high standards of competency, who is not above the petty concerns of politics and who is not disinterestedly devoted to giving the school population the best possible education within reasonable expenditure limits.

If there is one place more than another under municipal government where politics should not be permitted to intrude it is in the school administration. Experts can recommend what Hartford ought to do with respect to its schools, its teachers and the curriculum, but when all is said and done unless the personnel of the Board of Education is adequately qualified, the desired results will not be attained. Hartford fortunately possesses a large number of men and women capable of giving the schools the highest type of civic service. For the benefit of our school children and for the sake of our taxpayers these men and women, and they alone, should be entrusted with this most important of all municipal functions,—the responsibility of school management. Note these words from the Report:

"There are needed on the Board of Education men and women of good judgment, of wide experience and of sound common sense. They can and should check the executive officer who may become too enthusiastic or who would carry too heavy a load of experimentation in any given period. It is just as certain that board members should, when convinced of the wisdom of a proposed policy, stand for it not only in board meetings but before the community at large. A policy once adopted, they should consider

it their policy as well as that of the superintendent of schools. The right relationship between boards of education and superintendents of schools will come to exist when boards cease to think of their function as having anything to do with the execution of the policies which they adopt; when they scrutinize carefully each proposal brought to them by the superintendent of schools, and having passed upon it stand fast.

Nothing can more certainly interfere with the efficiency of the school system and nothing can be more fatal to the proper relationship between the board of education and the superintendent of schools, than the desire upon the part of any member of the board to place anyone in the school system because he is personally acceptable of because of political expediency."

That is so axiomatic that it hardly needs to be stated, but it is an axiom that has found too little acceptance here in Hartford, whether under the discredited district system or under a consolidated system that has not yet fully cast off the conglomeration of policies it inherited. It is entirely possible here, as it has been proved possible elsewhere, to get this community thinking of its schools and its board of education not in terms of politics but in terms of the highest order of public service. The Report clearly points the way to better things in the constantly widening field of elementary and high school education, and with respect to the main objectives set forth, it is not too much to hope that there will be a rallying of enlightened and responsible public opinion.

Administration of School Systems

The annual spring picnic of the Administration Club was held on May 15. The afternoon was spent in games and sports on the grounds of the Horace Mann School for Boys in Riverdale, and a picnic supper was served on the lawn of the home of Professor and Mrs. George D. Strayer.

Professor Strayer attended the meeting of the Educational Policies Commission of the National Education Association, held in Chicago April 30 to May 4. He also attended the annual meeting of the American Council on Education, held in Washington May 7 and 8.

Professor Strayer has accepted an invitation to participate in the summer session of the University of Kentucky, Lexington, Ky., teaching a course in "Modern Educational Problems" during the last two weeks in June. He will visit the Eastern Kentucky State Teachers College at Richmond, where he will deliver an address at the Open Air Theater. On July 1 he will address the Convocation of the School of Education at the University of Missouri and a seminar group in school administration.

The ninth annual edition of *The American School and University* carries an article by Professor George D. Strayer on "The Relationship between State and Local Administration of Schools," an article by Professor N. L. Engelhardt on "Better Classroom Provisions for High-School Work," and "An Annotated Bibliography of Fifty-Five Outstanding Books on School and College Buildings and Allied Topics" by the late William J. Lowry.

Professor Engelhardt addressed the American Physical Education Association Convention, held at the Hotel Pennsylvania, New York City, on April 23, on the topic "Fundamental Issues in Leisure Education and Recreation and the Educator's Responsibility."

Copies of *An Architect's Application for Consideration as Architect on a School Building Project*, by Professor Engelhardt may be secured from the Bureau of Publications of Teachers College. It is a mimeographed bulletin of 11 pages.

Professor Engelhardt spoke before the third district conference of the New York State School Boards Association, held at West Junior High School, Binghamton, N. Y., on April 21, on the topic "The Unique Function of Boards of Education in American Democracy."

Adult Education

Professor Lyman Bryson has been appointed to the Faculty Council of the New School for Social Research, New York City.

Columbia University Press will soon publish the report of a study of the cultural contributions of the Agricultural Extension Service, entitled *The Arts Workshop of Rural America*, by Miss Marjorie Patten, research associate in Adult Education.

Commercial Education

Mr. Clyde E. Rowe delivered a radio broadcast over Station WEVD on April 6 on the subject "A New Philosophy of Commercial Education."

At the meeting of the Commercial Education Association of New York City and vicinity, which was held on April 17, Mr. Rowe addressed the Gregg Shorthand Section on the subject "The Development of Shorthand in the Last Ten Years."

Educational Psychology

Dr. L. J. O'Rourke, a research associate in the Division of Psychology, Institute of Educational Research, Teachers College, resigned as instructor at Cornell University to accept a commission as psychologist in the Medical Research Laboratory of the United States Air Service. Later he was in charge of testing and assigning all enlisted personnel of the Air Service. He has served as president of the Personnel Research Federation, director of The Civics Research Institute, and director of The Psychological Institute. Dr. O'Rourke is at present director of research in Personnel and Administration of the United States Civil Service Commission and director of the President's Council of Personnel Administration.

Dr. Irving Lorge of the Institute of Educational Research of Teachers College gave a talk before the Georgia State College for Women, Milledgeville, Ga., on March 15, on the topic "Adult Learning for Georgia."

Dr. Lorge spoke at Cedar Crest College, Allentown, Pa., on March 1, on the subject "The Psychology of Adult Learning."

The Office of Education, Department of the Interior, recently issued *A Guide to Curriculum Adjustment for Mentally Retarded Children*, of which Professor Leta S. Hollingworth is co-author, under the editorship of Dr. Elsie H. Martens. This is designated Bulletin No. 11, and may be obtained by teachers at twenty cents per copy.

Fine Arts

Professor Sallie B. Tannahill spoke on "The Reorganization of Art Courses According to Our Present Economic and Social Demands" at the meeting of the Art Section of the Eastern States Association of Professional Schools for Teachers in the Commodore Hotel, New York City, on April 17.

Professor Elise E. Ruffini was one of the co-leaders of the discussion on "Teacher

Training in Art Education" at the Eastern Arts Association Convention, held March 31 to April 3 at the Hotel Pennsylvania, New York City.

At this convention a representative exhibit of this year's work in the department of Fine Arts was held. At the Thursday luncheon of the Association special tables were reserved for Teachers College graduates and students. About thirty-five enjoyed this opportunity for reunion.

The third number of *Art Education Today*, published recently by the Bureau of Publications of Teachers College, follows the general format of the preceding editions, but with more illustrations. The topics discussed are: "Some Generalizations Concerning Art Education," by James L. Mursell; "Old and New Forces in the Art Curriculum," by Edith L. Mitchell; "An Experiment in Teaching House Furnishing," by Grace Morin; "Art Education in a Rural School," by Rachel Taylor; "The Role of Mental Hygiene in the Arts," by Caroline B. Zachry; "An Experiment in Library Display," by Robert Iglehart; "Integration at Work—An Arts Program," by Mary E. Albright; "Possibilities of Integration Through Art," by Florence Cane; "Creative Art Education," by W. H. Schaefer-Simmern; Art Work in a Group of Schools; and Reviews.

The Fine Arts students, under the guidance of Professors Elsie E. Ruffini (general chairman), Sallie B. Tannahill, Belle Northrup, Charles J. Martin, and Arthur R. Young, Mrs. Ruth R. Tregenza, and Miss Grace V. Bliss, have prepared a series of paintings of "New York Today" and of seals representative of various teaching fields in Teachers College. These are on display on the first floor of Russell Hall and Teachers College Main Hall, having been exhibited for the first time at the Dean's reception on April 15.

Guidance Laboratory

The Guidance Laboratory is offering three $300 internships for the academic year 1937-1938. These internships are open to individuals specializing within the general field of Individual Development and Guidance. Applicants should already have had a minimum of two years of graduate study as well as a minimum of two years of experience in some sort of professional work related to the field of guidance. Those with skills in one or more of the following fields, who are interested in spending a year of study in the improvement of their techniques, are invited to make written application: directing the group play of children, speech diagnosis and remedial work, psychological testing, vocational guidance, parent education, remedial teaching, psychological counseling, child development, handicapped children, and other related fields. Final selections will be made by May 29.

Dr. Walter C. Langer of Harvard University will be in charge of the Guidance Laboratory during the Summer Session of 1937. Dr. Langer brings to this position several years' experience as head of his own school for delinquent boys in the Southwest and a background of successful work in psychotherapy, as well as several years of experience in the Harvard University Psychological Clinic. He is working at present with the Commission on Human Relations, under a subvention of the General Education Board, writing a psychology for adolescents.

The program of work for the Guidance Laboratory for the summer will again include an intensive program of demonstrations of all kinds of methods and techniques. During the Summer Session of 1936 there were approximately

seventy-five hours of such demonstrations, which were attended by almost four thousand students. An additional element of the Guidance Laboratory program will be the more intensive work in the field of reading diagnosis and remedial work under the supervision of Professor Arthur I. Gates and Professor Ruth Strang.

On May 5 Professor Lloyd-Jones addressed the New York League of Nursing Education at Mount Sinai Hospital on "Records in Nursing Education."

Guidance and Personnel

The Teachers College Branch of the National Vocational Guidance Association held its tenth annual Follies on April 30 at the Men's Faculty Club. The committee in charge consisted of: Henry Mendelson, chairman; Thelma Berger, Ruth Cooper, Allis Graham, Lois Hollingsworth, Louise Koeker, Elizabeth Gregg MacGibbon, Donald Super, and Anthony Tucker. The Follies was preceded by a dinner at which many former students in Guidance and Personnel were present.

A number of the students in Guidance and Personnel, under the direction of Dr. Roy N. Anderson, assisted the National Urban League in preparing materials for the nation-wide Vocational Opportunity Campaign sponsored by the League, April 18 to 24.

On April 9 Professor Harry D. Kitson participated in a "Career Day" celebration at the White Plains, N. Y., High School. He addressed a luncheon meeting of laymen and also the assembly meeting of the school. On April 23 and 24 Professor Kitson addressed the North Carolina Education Association at Durham.

The Board of Trustees of the National Vocational Guidance Association has elected Professor Kitson editor of *Occupations, the Vocational Guidance Magazine*, which is the official organ of the Association.

Miss Gertrude Forrester (A.M. 1935) of the West Bend, Wis., High School, and Mr. Vaughn Garrison, assistant principal and director of guidance of the Pontiac, Mich., High School, have been appointed assistants in Guidance and Personnel for the Summer Session.

Student Personnel Administration

The American Council on Education called together April 16 to 18 in Washington, D. C., a small group of those interested in personnel work at the college level. The problems which this group considered were: the scope and functions of student personnel work, terminology, co-ordination of personnel work within an individual college or university, co-ordination between student personnel work and the instructional and business divisions of the institution, co-ordination among existing national personnel associations, co-ordination of personnel work between institutions of secondary and higher education, methods of informing college administrators and faculties about personnel work, what research needs to be undertaken in the field of student personnel work, training of personnel workers, desirable organization for the advancement of student personnel work, and whether or not a new organization should be established—perhaps a committee or commission of the American Council on Education. Professor Esther Lloyd-Jones, as past president of the American College Personnel Association and as a representative of Teach-

ers College, was invited to attend this meeting.

Professor Lloyd-Jones addressed the annual convocation of students at St. Lawrence University, Canton, N. Y., on April 23.

Scarborough School, Scarborough, N. Y., held its second precollege conference on May 8. Senior girls from secondary schools throughout Westchester County and from New York City private schools were invited to attend this conference to hear discussions and to meet representatives of most of the eastern colleges for women. Dr. Dean McCluskey, who is head of Scarborough School, addressed the morning conference on the topic "What Kind of Girl Goes from High School to College?" and Professor Lloyd-Jones addressed the afternoon conference on "How Should the College Meet Her Needs?"

On April 15, Professor Sturtevant returned from the Mediterranean, where she spent the first three months of her sabbatical leave. She left immediately for California, where she will visit schools and colleges until she returns to New York about July 1 for the Summer Session.

Professor Ruth Strang has been invited to participate in the preparation of the two 1937 Yearbooks of the National Society for the Study of Education—the yearbook on guidance and the yearbook which is to review the methods and outcomes of the study of education for the past generation. She is also chairman of the group in charge of the preparation of the chapter on "Health and Physical Education" in a forthcoming issue of the *Review of Educational Research.*

Before the section of Deans and Advisers of the Eastern States Personnel Association Conference held at the Commodore Hotel, New York City, on April 17, Professor Strang spoke on "The Value of Case Histories in the Diagnosis of Academic Success and Failure."

Professor Strang has accepted the chairmanship of the Research Committee of the National Association of Deans of Women for the years 1938 and 1939.

During February, March, and April, the students in the major course in Student Personnel Administration enjoyed hearing in class, and meeting informally, several leading personnel workers. Dr. Marion Brown, vice-principal in charge of guidance at the University High School, Oakland, Calif., spoke on "Principles and Practices of Social Education in High School"; Miss Dorothy Bourne gave a detailed account of the development of the social program in the High School, Rye, N. Y.; Dean Thyrsa W. Amos, of the University of Pittsburgh, spoke on experiments in student participation in government, and orientation of freshmen; Dean Helen D. Bragdon spoke on perplexing problems of vocational guidance with which she had to deal at the University of Rochester; Miss Jessica Linneman presented concrete cases of educational guidance which she had followed up over a period of years at the New Jersey College for Women; Mrs. Laura W. L. Scales spoke on the residential life at Smith College; and Dr. Robert Hoppock, of the National Occupational Conference, gave some sources of occupational information.

Health and Physical Education

At the meeting of the Mills College Club of New York, held on April 7 in celebration of the eighty-fifth anniversary of the college, Professor Jesse Feiring Wil-

liams spoke on "The Girl and Mills College."

On April 19 Professor Williams was a guest of the National Association of Directors of Physical Education for College Women at its annual banquet in the Hotel Pennsylvania, New York City; on April 22 he addressed the Therapeutic Section of the American Physical Education Association Convention at the Hotel Pennsylvania on the topic "Nature and Scope of the School's Responsibility for the Health and Physical Education of the Handicapped Child"; and on May 4 he gave a talk to the Public Health Association and the Parent-Teacher Association of Putnam Valley on the general topic "The Children's Health."

Professor William L. Hughes addressed the Southeastern District of the New York State Society of Physical Education at Yonkers, N. Y., on April 17 on the topic "Visual Aids in Health and Physical Education."

Professor Josephine L. Rathbone talked before the Helen Kinne Club of Teachers College on April 1 on the topic "Poise." On April 22 she discussed Dr. C. H. McCloy's paper on "Curves of the Spine" at the Research Section of the American Physical Education Association Convention. During the Health Week (April 26-30) of the Greenwich, Conn., Y.W.C.A., she gave a talk on "Health Practices."

At a meeting of the alumnae of the Savage School of Physical Education on March 14, Miss Mary P. O'Donnell presented a lecture-demonstration on modern dance. With the aid of students from her advanced class at Teachers College, Miss O'Donnell demonstrated the progression used in teaching beginners in modern dance. The demonstration concluded with original compositions by members of the College group.

A Dance Conference was held at Teachers College April 19 through 21. At the Monday morning session, Professor Williams gave the opening address, Mr. John Martin talked on "The Modern Dance," and Miss Franziska Boas discussed "The Use of Percussion Instruments." During the afternoon session and the following morning, various work groups were organized: under the direction of Ruth Murry, "Movement Techniques"; Elsa Findlay, "Dalcroze Eurythmics"; and Martha Hill, "Dance Composition." At the Tuesday afternoon session, Norman Lloyd gave a lecture-demonstration of "Accompaniment for Modern Dance" and Marion Canfield, of "The Teaching of Social Dance." At the Wednesday morning session, Irma Otte-Betz and Irma Dombois-Bartenieff lectured on "Dance Notation," and Hanyz Holm and the Demonstration Group of the New York Wigman School gave a lecture-demonstration on "Modern Dance." At the afternoon session, Doris Humphrey, Charles Weidman, and their Concert Group also gave a lecture-demonstration on "Modern Dance." The conference closed with a round table discussion conducted by Miss Mary Jo Shelly.

On March 13 Professor Clifford L. Brownell attended the Virginia Physical Education Association meeting in Richmond and spoke on "Recent Trends in Health and Physical Education." He addressed the Southern District Convention of the American Physical Education Association, held March 17 to 20 in Houston, Tex., on the topics "Educational Principles in Camping" and "Ten Years' Harvest in Health Education." He also attended the Mid-West Convention of the American Physical Education Association, held March 31 to April 3 in Cincinnati, Ohio.

Professor F. W. Maroney was speaker at the faculty meeting of the Sewanhaka High School, Floral Park, N. Y., on March 22.

On April 8 Professor Maroney addressed the meeting of the Rotary Club of Worcester, Mass. His topic was "Health Education."

Horace Mann School

Professor Rollo G. Reynolds returned to Horace Mann School on March 25, having been absent since October on a tour which he and Mrs. Reynolds made around the world.

Miss Marion Flagg made the following addresses recently: on April 3 at Teachers College, "New Developments in Music Education"; on April 9 and 10 at Temple University, "Career Opportunities in Music Education," and on April 14 at the Eastern Music Educators Conference in Buffalo, "The Musical Teacher." Miss Flagg also attended a meeting of the National Research Council of the Music Educators National Conference in Buffalo.

On April 24 Miss Flagg was chairman of the Private Schools Music Festival, held at McMillin Theatre. She has been reappointed chairman of the Committee on Experimental Projects in Music Education of the Music Educators National Conference, and is educational adviser of the National Music League Radio Experiment.

Miss Flagg is author of the following recent articles: "The Inquiring Mind," *1936 Yearbook, Music Educators National Conference,* and "Music for the Forgotten Child," *Music Educators Journal,* February 1937.

On April 8 Miss Mary Harden spoke before the Elementary School Principals' Association of Nassau County, L. I. Her topic was "Leadership in Forming a Social Studies Program."

Household Arts

Two framed manuscripts commemorating the services of Helen Kinne, former head of Household Arts, and Arthur Wesley Dow, who co-operated in the planning of the room when Dodge Hall was first constructed, have recently been hung in the Tudor Table Service Dining Laboratory on the second floor of Dodge Hall. The tribute to Professor Kinne was written by Professor May B. Van Arsdale and the tribute to Professor Dow by Dean Emeritus James Earl Russell. The manuscripts were illuminated by Miss Adele Diamond. They read as follows:

HELEN KINNE
1861—1917

Pioneer in the field then known as Domestic Science. Able, far-seeing leader, skilled teacher, inspiring friend. An advanced student in mathematics, astronomy, and the liberal arts, her fine professional abilities were set against the background of a world-wide outlook upon life. This room, which she helped plan, reflects the charm and dignity of her personality.

May B. Van Arsdale

ARTHUR WESLEY DOW
1857—1922

Eminent artist. Foremost exponent of the principles of design and art structure. Noble gentleman. Inspiring teacher and true friend to thousands of students who cherish the memory of his life and works —a priceless legacy to Teachers College and to a world in need of things beautiful and good and true.

James Earl Russell

Industrial Arts Education

Professor Fred Strickler, assisted by Mr. L. L. Gore of George Peabody College

for Teachers, presented the survey of industrial arts and trade school education to the teachers of the Hartford, Conn., schools on March 24.

Professor Strickler attended the meetings of the Twenty-eighth Annual Convention of the Eastern Arts Association, held in New York from March 31 to April 3. As a member of the executive council of the Association, he had charge of the conferences on junior high schools and was chairman of the industrial arts sectional meeting which was held on Friday evening.

Library

Science Books for the Elementary School, prepared by Miss Ruth Budd of the School Library Laboratory, has been published by the H. W. Wilson Company, New York.

Another volume of *Classroom Literature*, monthly notes about books on various topics or units of work, is nearing completion. Lists of books for all ages and grade levels on aviation, community life, games and pastimes, and of books especially suited to older boys and girls who have reading difficulties, constitute some of the recent issues. Two back issues, "Growing Up Gracefully" (books on good social behavior) and "Free Pamphlets," which have been out of print, are now available. The March issue lists reference books for the elementary school. Current issues of *Classroom Literature* are distributed without charge in the School Library Laboratory. The yearly subscription price beginning with the July issue is one dollar, and back numbers are available in the School Library Laboratory at fifteen cents each. Lists of the complete set will be sent on request.

The January issue of *The Library Consultant* considers the subject of the school library from the point of view of the administrator and the teacher. Here will be found information on standards and measurements, directions for starting a classroom or school library, and lists of agencies which can supplement the collection of the school library. The April issue of this quarterly pamphlet deals with materials on the study and teaching of home economics. Copies can be obtained from the Library Office at fifteen cents each.

Professor Carter Alexander opened the sectional discussion on "Instructing Prospective Teachers in How to Use Library Materials Effectively" at the meeting of Eastern States Association of Professional Schools for Teachers in New York City on April 17.

Lincoln School

On March 2 Miss Tompsie Baxter gave a talk on "Planning Units of Work," in connection with course Education em211K at Caldwell, N. J.

Mrs. Marjorie Bingham has been leading the Directors' Section of the Camp Leadership course Education 148ex on Monday evenings. The final meeting was held on April 26. Mrs. Bingham has accepted a position with the National Girl Scouts to develop an experimental camp program for adolescent girls during 1937-1939, using as a base Camp Andree, Briarcliff, N. Y. She is now serving as chairman of the Nominating Committee of the New York Section of the American Camping Association.

Mr. H. Emmett Brown was a member of the Science panel of the Progressive Education Association convention at St. Louis in February, and leader of a dis-

cussion group at Philadelphia, March 13, under the auspices of the same association.

Professor Lester Dix gave a talk on March 12 at the University of Pennsylvania in connection with Schoolmen's Week. His topic was "The Library in a Modern School." This speech is being printed in the *Junior-Senior High School Clearing House* and in *The Journal of the American Library Association.* Professor Dix also spoke at the meeting of the Trenton Alumni Association, in Newark, N. J., on March 6, his topic being "Professional Responsibilities of an Alumni Association." He gave the opening lecture, "The Philosophy and Organization of Lincoln School," in the course Education em211K at Caldwell, N. J., on February 9. The course consists of fifteen lectures by as many members of the Lincoln School staff.

During the absence of Professor J. Ralph McGaughy on leave, Professor Dix is participating in the work of the department of Elementary Education.

Professor L. Thomas Hopkins attended the meeting on February 21 of the Board of Trustees of Dean Academy, Franklin, Mass., of which he is a member.

Professor Hopkins addressed the Parent-Teacher Association of the Harrison School, Ridgewood, N. J., February 17, on the topic "Trends in the Curriculum for Educating the Whole Child." He spoke to the city school teachers of Binghamton, N. Y., March 2, on "Philosophy and the Curriculum," and March 12 addressed the Central Division of the Illinois State Teachers Association at Normal, Ill., on "Philosophy and the Curriculum," and the high-school sectional group on "The Emerging Secondary School Curriculum." From Normal he went to Quincy to address the teaching staff on problems of modernizing the curriculum.

Professor Hopkins lectured on "Present Trends in Curriculum Making," in the extramural course Education em211K, at Caldwell, N. J., on March 16.

Miss Anne Eaton gave a talk on "School Libraries" to the students of the Pratt Institute Library School, Brooklyn, N. Y., on March 8.

Mr. Henry C. Fenn contributed an article, "And What About Visitors?" to the March issue of *Progressive Education,* and another, "Experiencing Ancient Cultures," to the April issue of *Junior-Senior High School Clearing House.* Mr. Fenn is giving a course on Chinese Language at Columbia University.

Mr. Edwin Fulcomer participated in the survey of the schools of Hartford, Conn., his work being in connection with buildings and grounds and personnel.

Mr. Fulcomer had the leading role, that of Benedict Arnold, in *The Brink of Glory,* a historical play by Peggy Phillips recently produced at Earl Hall by the Columbia Theatre Associates.

Dr. Gertrude Hildreth contributed an article, "Psychology as a Career," to the March-April issue of *The Journal of Consulting Psychology.*

Dr. Hildreth gave a talk on "The Psychology of Arithmetic" before the elementary and junior high school teachers of Huntington, L. I., on March 3 and contributed a lecture on "Learning the 3 R's in the Modern School" to the course Education em211K at Caldwell, N. J., on March 17.

Miss Elmina R. Lucke is serving on the Evaluation Committee, headed by Dr. Ralph Tyler, of one of the operating committees of the Aikin Eight-Year Experiment. She made a trip to Columbus,

Ohio, recently in connection with this work.

Dr. James Mendenhall gave a talk on "Important Teachers' Aids" at a meeting of the Elementary School Principals' Association of Nassau County, N. Y., on March 11.

Building America, of which Dr. Mendenhall is editor, has published issues on "The Constitution," "Safety," "Clothing," "Social Security," and "Steel." The remaining issues of the year are on "We Consumers," "Conservation," and "Movies."

Mrs. Ouida Meyer trained a group of Lincoln School students, as well as a group of Lincoln parents, for participation in the annual festival of the English Folk Dance Society of New York, which was held May 1 at the Seventh Regiment Armory.

Miss Alice Schoelkopf was a member of a panel discussion on "The Place of Education and Psychology in the Training of the WPA Art Teacher," held at the Y.M.H.A. in February. She was chairman of the high school division of the Eastern Arts Conference, held in New York March 31 to April 3.

Mrs. Arensa Sondergaard spoke at Caldwell, N. J., on April 6, on "Reading in the Elementary School," in connection with the course Education em211K. Mrs. Florence M. Tchaika contributed a lecture on "Units in the Primary Grades" to the Caldwell course on March 9.

The group taught by Miss Emily Ann Barnes will be taught the remainder of the year by Mrs. Ursula Bringhurst, formerly a teacher in Bronxville, N. Y. A fund for the aid of teachers in emergency is being established in memory of Miss Barnes.

During the absence on leave, in 1937-1938, of Professor John Clark, principal of the high-school division of Lincoln School, the position of acting principal will be held by Mr. G. Derwood Baker, at present principal of the South Pasadena, Calif., High School.

Mathematics

Professor W. D. Reeve was a speaker at the Mathematics Section of the Florida State Teachers Association in Orlando on March 19 and 20. He addressed the Florida Breakfast meeting on Friday morning and the Teachers College Alumni Breakfast meeting on Saturday morning. He also spoke to the Mathematics Section and the large General Session of the Tennessee Education Association meeting in Nashville on March 26 and 27. His topics were "Mathematics in the Integrated Program" and "The Place of Mathematics in Modern Education."

Mr. Aaron Bakst's dissertation, which is entitled *Approximate Computation*, is being published by the Bureau of Publications of Teachers College as the Twelfth Yearbook of the National Council of Teachers of Mathematics. (See pages 712 to 714 of this issue of THE RECORD.) This volume contains a foreword by Dr. A. A. Bennett, visiting professor from Brown University.

Music Education

A group of fifty students and faculty members attended the New York Oratorio Society performance of Bach's St. Matthew's Passion in the Cathedral of St. John the Divine on May 11. Arrangements for attendance on this occasion were made by Professor Howard A. Murphy.

Professor Alice E. Bivins returned to her regular duties at Teachers College on April 1. She is, however, withdrawing from teaching work during the Summer Session. Professor Bivins' place on the European Field Trip in Music Education this summer will be taken by Professor Miles A. Dresskell, who was a member of the 1935 European group.

At the March 24 meeting of the students' Music Education Club, of which Mr. Ronald J. Neil is president, John J. Niles sang a program of folksongs; on April 28, a two-piano recital was given by Evelyn Wertkin and David Rattner; and on May 12 a violin recital by Ralph Friedman was heard, and election of officers for next year was held.

Professor Peter W. Dykema acted as adjudicator at the South Carolina State High School Music Contest, held April 22 to 24.

Mr. Carl W. Gutekunst has been elected to membership in the American Academy of Teachers of Singing.

Professor Murphy has been chosen to serve on the executive board of the Downtown Music School, 68 East 12 Street, New York City.

Miss Lilla Belle Pitts, in a trip which extended over two weeks, apeared on the program of the Music Educators Sectional Conferences at San Francisco, March 21 and 24, and at Portland, Oregon, March 28 and 31. In addition to giving her scheduled speeches, Miss Pitts addressed a number of special groups which had been arranged to hear her. During her absence her classes at Teachers College were taught by Mrs. Theodora Perrine of the Short Hills Country Day School, and Miss Marion Flagg of Horace Mann School.

Under the editorship of Professor Dykema *Classical Gems for Orchestra*, Sam Fox Publishing Company, and *Sing*, a community song book, C. C. Birchard & Company, have been issued recently.

Professor Dykema's ballad cantata, Robin Hood and Allin A Dale, which was published in 1936, will be produced and broadcast in Dublin, Ireland, by the Mullyan Choir on May 24.

Professor Dresskell recently addressed a special music session of students of the public schools, Westwood, N. J., on the topic "The Consideration of Music as a Profession."

An elaborate program of musical activities was given at Teachers College during National Music Week, May 2 through May 8. Community singing of songs of different nations was heard in Teachers College Main Hall twice daily; the a cappella choir was heard in a special program in Milbank chapel on May 5; a concert of original compositions by students of Music Education at Teachers College was given on May 6; and a demonstration of Dalcroze Eurythmics was given in the Grace Dodge Room on May 8. Instrumental and vocal groups from New College and Horace Mann School also participated in the activities of Music Week.

Natural Sciences

During March and April, Professor Gerald S. Craig addressed the staffs of the public school systems of Cranford, N. J., East Orange, N. J., and Norwalk, Conn. On March 11 he spoke on "A Program of Science in the Modern Elementary School," at Schoolmen's Week at the University of Pennsylvania.

A Study Discussion Group meeting in Elementary Science was held at the headquarters of the Progressive Education Association in New York City on April 16. Professor Craig, Miss Katherine Hill of the Horace Mann School, and Miss Rose Wyler of the Lincoln School participated in the discussion.

Mr. W. W. McSpadden addressed a conference at the State Normal School at Glassboro, N. J., on March 13. His topic was "Improvement of Instruction in the Elementary School through the Use of Science Experiments."

Normal School Education

Professor E. S. Evenden addressed the Temple Chapter of Phi Delta Kappa on April 2 at Mitten Hall, Temple University, Philadelphia. His topic was "The Professional, Economic, and Social Status of Public School Teachers in the United States." The local chapters of Kappa Phi Kappa and Phi Delta Gamma were guests at the meeting.

Professor Evenden is serving as a consultant to the Committee on Accrediting of the National League of Nursing Education. A meeting of this committee was held at the Hotel Roosevelt, New York City, on April 17.

Dr. Paul G. Chandler who, since he completed his work for the Doctor of Philosophy degree in Teachers College in 1930, has served as professor of education at the State Teachers College, Millersville, Pa., was recently appointed president of the State Teachers College at Clarion, Pa. Dr. Chandler has already begun his new duties.

Dr. Robert H. Morrison has been appointed State Director of Teacher Education and Junior Colleges for the State of New Jersey, to take effect July 1. Since obtaining the Doctor of Philosophy degree in Teachers College in 1934, he has served as Director of Practice in the State Teachers College at Montclair, N. J., and as Principal of the State Normal School at Paterson, N. J. Dr. Morrison will be succeeded at Paterson by Mr. Clair S. Wightman, who now holds the position of Director of Student Teaching in that institution.

Nursery School and Kindergarten–First Grade Education

The annual meeting of the Association for Childhood Education was held in San Antonio, Tex., the latter part of March. The high spot of the meeting for Teachers College was the annual dinner held on March 31 by former students of the College. Seventy-five former students and teachers were present. Miss Eula Biles of San Antonio was hostess and toastmistress. Professor Jean Betzner told of the activities of the department of Elementary Education of Teachers College, Professor Winifred Bain spoke for New College, Miss Charlotte Garrison told of the various activities of the department of Nursery School and Kindergarten–First Grade Education during the past year, and Miss Edith Conard told of plans for her conducted tour to the Orient this summer. Miss Helena Wilson of Houston, Miss Elma Neal of San Antonio, and Miss Ima Kuykendall of Fort Worth were the speakers from Texas. Each guest was asked to give her name and present position, and to tell something of her work.

In collaboration with Miss Garrison, Mrs. Gretchen O. Murray has recently contributed an article concerning kindergarten teaching as a profession to the March number of *The Independent Woman.*

Miss Conard spoke before the Department of Supervisors and Directors of Instruction at the National Education Association meeting in New Orleans on "The Progress of Manuscript Writing in First and Second Grade." She addressed the Curriculum Group of the Association for Childhood Education meeting in San Antonio on the topic "Today's Child and Writing Skills." In place of Professor Mary M. Reed, the chairman of the World Fellowship Committee, Miss Conard reported at the Committee and Business Meetings on the plans for annual tours to foreign countries sponsored by the Association for Childhood Education. The two tours planned this year are to Scandinavia, under Professor Otto Mathiasen of Antioch College, and to the Orient, under Miss Conard, to attend the Japan Kindergarten Union meeting and World Federation of Education Association meeting in Tokyo.

A large group of teachers in Greenwich, Conn., are taking the course in manuscript writing under Miss Conard. The Westport, Conn., teachers have asked her to give a similar course for both teachers and children in their schools.

Professor Patty S. Hill, Mrs. Murray, and Miss Alice Thorn are co-operating with the Woolworth Company in issuing a standard story and picture book for young children. The book is to be large, with good type and margins, gay in color, and sufficiently strongly bound to stand the wear and tear of unskilled hands, but will be sold at a price low enough to reach large numbers of homes.

Rural Sociology

Columbia University Press recently published *Rural Trends in Depression Years*, by Edmund deS. Brunner and Irving Lorge. This book is the result of a survey of one hundred and forty village-centered farming communities, all of which were studied in 1924 and again in 1930 under Professor Brunner's direction. The investigation was a joint project of the Bureau of Agricultural Economics of the United State Department of Agriculture and the Columbia University Council for Research in the Social Sciences.

Secondary Education

Professor Thomas H. Briggs has been appointed a member for three years of the Library Council of Columbia University. He has also been elected vice-president of the Columbia Chapter of the American Association of University Professors.

In addition to addressing the meeting of the North Central Association of Colleges and Secondary Schools in Chicago on April 9 Professor Briggs attended a conference called by President George F. Zook of the American Council on Education to discuss a proposal for making a critical evaluation of published researches in education.

The April issue of *The Clearing House* contains the address given by Professor Francis T. Spaulding of Harvard at the dinner in New Orleans in honor of Professor Briggs.

On April 7, Professor Elbert K. Fretwell spoke at the meeting of the Parent-Teacher Association in Camden, N. J., on "Parent and Teacher Co-operation." Dr. Leon Neulen (Ph.D. 1931), superintendent of schools at Camden, is president of the New Jersey State Teachers Association.

At the national convention of the

American Physical Education Association, held at the Hotel Pennsylvania, New York City, on April 23, Professor Fretwell was chairman of the panel discussion on "Who Should Be Responsible for Training Camp Counselors in the Future?"

At the annual meeting of scout leaders of New York and New Jersey, held at Syracuse, N. Y., on April 23, Professor Fretwell addressed the dinner meeting on the subject "A Father Looks at Scouting."

On the afternoon of April 29, at a joint meeting of groups from the Hospital Auxiliaries of the Syracuse Memorial Hospital and the University Hospital of the Good Shepherd, Syracuse, N. Y., Professor Fretwell spoke on the topic "Leisure: How to Get It and What to Do With it." In the evening of the same day he met with the members of the School of Nursing of the Syracuse Memorial Hospital. Miss Evelyn C. Baker (B.S. 1936), instructor in the School of Nursing, arranged the meeting.

Professor Fretwell addressed a conference on Student Participation in School Government at the "State Meet" held in Austin, Tex., on May 7. The conference was sponsored by the Bureau of Public School Interests of the University of Texas.

Mr. Francis A. Young, assistant in Secondary Education, will serve as instructor in Secondary Education at the Lehigh University summer session for 1937.

At an afternoon tea served by the Secondary Club to members of the Department and their guests on April 14, Professor Briggs read selections from his favorite poems to an appreciative audience. The Club is planning to conclude its activities for the season with an outing at the Fretwell farm in Westport, Conn.

Speech Education

Mrs. Jane Dorsey Zimmerman, associate in Speech, presided at the Eastern Public Speaking Conference, held at the Hotel New Yorker, New York City, April 12 and 13. The program included the following topics for discussion: "State and Local Organizations as a Vital Force in Speech Education," "State Departments of Education and Problems of Certification and Curricula in Speech Education," "Speech in Adult Education," "Dramatics," "Choral Speaking," "Public Speaking and Debate," "Phonetics," "Speech and the Radio," "Problems of Voice Science," and "Speech Programs in Elementary and Secondary Schools." Dr. Magdalene Kramer, Dr. Milton Smith, and Mr. Charles Wells of Teachers College participated in the meetings of the Conference.

Bureau of Educational Service*

The following appointments of Teachers College Alumni are reported by the Bureau of Educational Service:

Adanalian, Alice (A.M. 1934), appointed assistant director, Cleveland Guidance Center, Cleveland, Ohio.

Allen, Elizabeth (A.M. 1935), appointed pavilion dietitian, Pennsylvania Hospital, Philadelphia, Pa.

Baker, Dorothy (A.M. 1934), appointed assistant dietitian, Indianapolis City Hospital, Indianapolis, Ind.

Blumenthal, Amelia L. (A.M. 1936), appointed nursery school teacher, Bethlehem Day Nursery, New York City.

Boyington, Gladys (A.M. 1925), ap-

* Any student who is taking or has taken twelve points of work at Teachers College or any graduate of Teachers College may register with the Bureau of Educational Service. No fee is charged. For full information write to the Bureau for copies of its booklet, *Employment of Teachers and Administrators.*

pointed critic teacher of social studies, Lincoln High School, Michigan State Normal School, Ypsilanti, Mich.

Carmichael, Elizabeth S. (A.M. 1937), appointed extension specialist in child development and parent education, Extension Division, Oklahoma Agricultural and Mechanical College, Stillwater, Okla.

Chandler, Paul G. (Ph.D. 1930), appointed president, State Teachers College, Clarion, Pa.

Churson, Pauline (B.S. 1936), appointed home representative, Edison Co., Staten Island.

Crafts, Elinor (A.M. 1935), appointed teacher of social studies, Public Schools, Woodmere, L. I.

Dugosh, Ruby E. (A.M. 1935), appointed head of design department, Edgewood Park School for Young Women, Briarcliff Manor, N. Y.

Eames, M. Louise (A.M. 1936), appointed teacher of home economics, Junior High School, Tamaqua, Pa.

Fisher, H. Rebecca (B.S. 1931), appointed teacher of home economics, Robert Gould Shaw Settlement, Boston, Mass.

Fuller, Benton F., Jr. (A.M. 1935), appointed high school inspector, State Capitol, Oklahoma City, Okla.

Gloss, George M. (A.M. 1935), appointed associate professor of physical education and health, Louisiana State University, Baton Rouge, La.

Graham, Allis E., appointed for personnel work, J. David Houser, New York City.

Gushee, Vera M., appointed assistant research worker in curriculum, Teachers College, Columbia University, New York City.

Harkness, Helen D. (A.M. 1928), appointed instructor in home economics, Indiana University, Bloomington, Ind.

Hartman, Helen D. (B.S. 1934), appointed director of nursery school, Lexington School for the Deaf, New York City.

Hoerner, Lena May (A.M. 1925), appointed head of home economics department, Instituto Crandon, Montevideo, Uruguay.

Judy, Genevieve A. (A.M. 1937), appointed home bureau manager, Extension Service, Cornell University in Nassau County, Mineola, L. I.

Koetting, Rosina M. (A.M. 1935), appointed director of physical education for women, Southeast Missouri State Teachers College, Cape Girardeau, Mo.

Lekvold, A. D. (A. M. 1935), appointed assistant professor of music education, Miami University, Oxford, Ohio.

MacDonald, Helen S., appointed head of Latin department, Abington Friends' School, Jenkintown, Pa.

Martin Beverly A. (A.M. 1935), appointed director of nursery school, Union Community Center, Hartford, Conn.

Nickerson, Virgilyn A., appointed director and teacher of dramatics, South Side High School, Rockville Centre, L. I.

Pitts, Clara L. (A.M. 1926), appointed administrative principal, Madison-Taylor Schools, District of Columbia, Washington, D. C.

Quigley, Margaret D. (B.S. 1936), appointed dietitian, Sarcik Laboratories, New York City.

Rudd, Maridel E. (A.M. 1934), appointed first grade supervisor, Colorado State College of Education, Greeley, Colo.

Sharp, Anne K. (A.M. 1932), appointed supervisor of lower school, Graham Eckes School, Daytona Beach, Fla.

Simpkins, Robert (A.M. 1931), appointed principal, Riverside School, Greenwich, Conn.

Spencer, Herbert S., appointed director of music, Technical High School, Springfield, Mass.

Sugrue, Edward (A.M. 1936), appointed teacher of French, history, and mathematics, Canterbury School for Boys, New Milford, Conn.

Teel, Lora (A.M. 1936), appointed teacher of social studies, Junior High School, Elmhurst, Ill.

Thompson, May Elizabeth (M.S. 1931), appointed dietitian, New York Orthopedic Hospital, New York City.

Thornbury, Mary Christine (A.M. 1926), appointed teacher of Gregg shorthand, Gaines School of Business Administration, New York City.

Titsworth, Adelene (A.M. 1936), appointed instructor in weaving and design, The Art Institute of Chicago, Chicago, Ill.

Wilgus, Sarah Ross, appointed first grade teacher, Juanita School, Kirkland, Wash.

Williamson, Mary Blanch (A.M. 1926), appointed supervisor in primary department, State Teachers College, Moorhead, Minn.

The following appointments of Teachers College Alumni will be effective in September:

Badger, Frances W. (A.M. 1934), appointed director of physical education, Radcliffe College, Cambridge, Mass.

Bedell, Beulah (A.M. 1935), appointed sixth grade teacher, Community School, St. Louis, Mo.

Bode, Virginia, appointed teacher of physical education, High School, Rock Island, Ill.

Burtner, Kathrine Elizabeth (A.M. 1935), appointed instructor in physical education, George Washington University, Washington, D. C.

Frantz, Elizabeth Phyllis (A.M. 1936), appointed teacher of science, St. Agatha School, New York City.

Ferguson, Frances E., appointed teacher of French, High School, Pelham, N. Y.

Frink, Margaret H. (A.M. 1929), appointed instructor in foods and nutrition, Pine Manor Junior College, Wellesley, Mass.

Hicks, Elizabeth S., appointed instructor in physical education, Wilson College, Chambersburg, Pa.

Melgaard, Agnes L. (B.S. 1929), appointed substitute instructor in art, MacDonald College, Quebec, Can.

Murphy, H. George, appointed principal, Croton-Harmon Grade School, Croton-on-Hudson, N. Y.

Palmer, Anna Laura (A.M. 1937), appointed supervisor of mathematics, Milne High School, Albany, N. Y.

Weisell, Martha R., appointed grade teacher, Public Schools, Fort Wayne, Ind.

Recent Publications

WEALTH, CHILDREN, AND EDUCATION. By JOHN K. NORTON and MARGARET ALLTUCKER NORTON. 120 pp. Cloth, $2.00. School Administration Series.

A PLAN FOR FEDERAL SUPPORT FOR PUBLIC EDUCATION. By PAUL R. MORT. 74 pp. Paper, 75 cents.

NEEDED RESEARCH ON THE REORGANIZATION OF SCHOOL DISTRICTS IN RURAL AREAS. By FRANK W. CYR. 23 pp. Paper, 25 cents.

NUMBERS AND NUMERALS. By DAVID EUGENE SMITH and JEKUTHIEL GINSBURG. 64 pp. Paper, 25 cents.

FACTORS RELATED TO THE CHANGES IN SCHOOL ADJUSTMENT OF HIGH SCHOOL PUPILS: WITH SPECIAL REFERENCE TO SELECTED FACTORS IN THE HOME ENVIRONMENT. By LESTER A. KIRKENDALL, Ph.D. 89 pp. Cloth, $1.60. Contributions to Education, No. 705.

READING INTERESTS, ACTIVITIES, AND OPPORTUNITIES OF BRIGHT, AVERAGE, AND DULL CHILDREN. By MAY LAZAR, Ph.D. 127 pp. Cloth, $1.60. Contributions to Education, No. 707.

THE BASIS FOR CONSTRUCTING CURRICULAR MATERIALS IN ADULT EDUCATION FOR CAROLINA COTTON MILL WORKERS. By RALPH M. LYON, Ph.D. 129 pp. Cloth, $1.60. Contributions to Education, No. 678.

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Old and New Forces in the Art Curriculum, by EDITH L. MITCHELL

Some Generalizations Concerning Art Education, by JAMES L. MURSELL

An Experiment in Teaching House Furnishing, by GRACE MORIN

Art Education in a Rural School, by RACHEL TAYLOR

The Rôle of Mental Hygiene in the Arts, by CAROLINE B. ZACHRY

An Experiment in Library Display, by ROBERT IGLEHART

Integration at Work—An Arts Program, by MARY E. ALBRIGHT

Possibilities of Integration Through Art, by FLORENCE CANE

Creative Art Education, by W. H. SCHAEFFER-SIMMERN

Art Work in a Group of Schools

Reviews

The 1937 Annual follows the general format of the preceding editions, but has more illustrations. Price $1.15 postpaid. (1935 Edition, $1.30; 1936 Edition, $1.15.)

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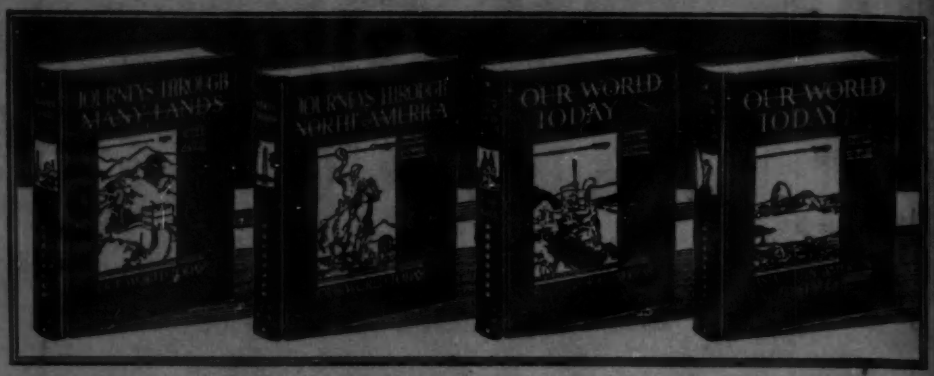

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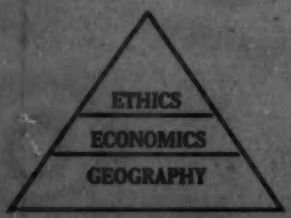

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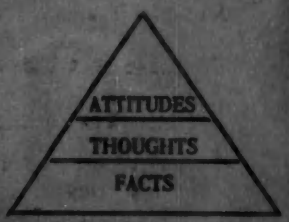

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